ALAGAPPA UNIVERSITY

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KARAIKUDI – 630 003

DIRECTORATE OF DISTANCE EDUCATION

M.A (ECONOMICS)

Second Year – Third Semester

36241– MACRO ECONOMICS - II

SYLLLABI-BOOK MAPPING TABLE
MACRO ECONOMICS – II

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MA (ECONOMICS)

36241: MACRO ECONOMICS - II

(English Medium)

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<u>Prepared by</u>

Dr. R. HARIHARAN., MA (Eco)., MA (RD)., M.Phil., Ph.D.
Assistant Professor
Department of Economics
Alagappa Government Arts College
Karaikudi – 03

UNIT-I: THEORIES OF DEMAND FOR MONEY

Contents

1.1 INTRODUCTION

Demand for money is a prominent issue in macroeconomics due to the important role that monetary demand plays in the determination of the price level, interest income. But, first we should know the meaning of demand for money. In general peoples demand for money is for in order to make payments for their day-to-day purchases of goods and services. Further, demand for money arises from two important functions of money. The first is that money acts as a medium of exchange and the second is a store of value. Thus, individuals and businessman wish to hold money partly in cash and partly in the form of assets. Theoretically speaks, various schools of thought in economics define differently the demand for money.

The theories are:

1. Quantity theory and Keynes approach,
2. Boumol's Inventory Approach,
3. Tobin Portfolio Approach, and
4. Friedman's Theory.

1.2 QUANTITY THEORY OF MONEY – KEYNES

Keynes reformulated the Quantity Theory of Money. According to him, money does not directly affect the price level. Also, a change in the quantity of money can lead to a change in the rate of interest. Further, with a change in the rate of interest, the volume of investment can change. Also, this change in investment volume can lead to a change in income, output, and employment along with a change in the cost of production. Finally, all these factors will lead to a change in the prices of goods and

services. In simple words, the Keynesian version of the Quantity Theory integrates the monetary theory with the general theory of value.

1.2.1 Transmission Mechanism:

Keynes' great merit lies in removing the old fallacy that prices are directly determined by the quantity of money. His theory of money and prices brings forth the truth that prices are determined primarily by the cost of production. Keynes does not agree with the old analysis which establishes a direct causal relationship between the quantity of money and the level of prices. He believes that changes in the quantity of money do not affect the price level (value of money) directly but indirectly through other elements like the rate of interest, the level of investment, income, output and employment. The initial impact of the changes in the total quantity of money falls on the rate of interest rather than on prices.

As the quantity of money is increased (other things remaining the same), the rate of interest is lowered because the quantity of money available to satisfy speculative motive increases. A lowering of the rate of interest (marginal efficiency of capital remaining the same) will raise investment, which in turn, will result in an increase of income, output, employment and prices. The prices rise on account of various factors like the rise in labour costs, bottlenecks in production, etc. Thus, in Keynes' version the level of prices is affected indirectly as a result of the effects of the changes in the quantity of money on the rate of interest and hence investment. It is on account of this reason that Keynes analysis is, at times, spoken of as the 'contra-quantity theory of causation' because it takes rise in prices as a cause of the increase in the quantity of money instead of taking the increase in the quantity of money as a cause of the rise in prices.

1.2.2The Transmission Mechanism process that follows in Keynes is like this:

Increases in the quantity of money → result in a fall in the rate of interest → which encourages investment → which in turn, raises income, output and employment → it results in raising the cost of production → this results in raising prices. The traditional theory ignored the influence of the quantity of money on the rate of interest, and thereby on output and goes directly from increase in the quantity of money to increase in the level of prices. Therein lay the fault of its analysis. Keynes, thus, removed the classical dichotomy in the traditional money-price relationship by rejecting the direct relationship between M and P. He asserted that the relationship between M and P is indirect and that the theories of money and prices can be integrated through the theory of aggregate demand or the theory of output. The missing link between the real and monetary theories, according to Keynes, is the rate of interest. The mechanism of the rate of interest will work as shown above, which will increase investment and through multiplier ultimate income.

The increase in aggregate demand for commodities and a higher push given to wages and costs will raise firstly the relative prices and then the general price level. The process of integration between M and P and the extent by which P will change, as a result of a given change in M, can be shown through a general theoretical model based on money supply (M), general price level (P), the aggregate demand (D), the level of income or output (Y or O), the level of employment (N) and the level of money wages (W).

These relationships can be expressed through elasticity coefficients. The ratio of a proportionate change in P to the proportionate change in M is shown by the elasticity of price level (e). The change in aggregate demand (D) to a given change in M is the elasticity of aggregate demand (e_d). The change in Y or O in response to a change in AD may be expressed as elasticity of income or output (e_y or e_o). The change in price level, as a result of a given change in AD, is denoted by elasticity of price (e_p). The response of Y or O to an increase in employment (N) is shown by the elasticity of returns (e_r) and the response of money wages as a result of an increase in employment is the elasticity of money wages (e_w).

In the classical version of the quantity theory of money, which is based on the assumption of full employment and where money is only a medium of exchange, the elasticity of price level (e) and e_d remain equal to unity. The elasticity of output (e_0) is zero and as a consequence the elasticity of price (e_p) must be equal to unity. Since $e_0 + e_p = 1$ (unity), the price level, in this case rises in exact proportion to the quantity of money.

In Keynes' version, e = 0, prior to full employment and e = 1, or unity, once the full employment level is attained. In the former case (less than full employment) e_d – unity and e_r will also be equal to unity on the presumption that production is governed by the law of constant returns, but e_r is determined by e_w. Before full employment money wages are assumed to be constant, therefore, e_w will be equal to zero. Assuming other factor prices also as constant, e_r will be equal to unity. If e_r is unity, then, e_0 will also be unity. If elasticity of output (e_0) is equal to unity, then e_p, must be equal to zero. Thus, the reformulated quantity theory of money suggests that the price level will remain constant so long as there are unemployed resources in the economy.

Keynes, however, does not subscribe to the view that the price level will be constant before full employment, though the rise in price level may be less than proportionate. Because there is a possibility of money wages rising before full employment, e_w is greater than zero; $e_w > 0$ brings, in turn, the operation of the law of diminishing returns, so that $e_r < 1$ (unity) and, therefore, e_o will also be less than unity. The elasticity of aggregate demand (e_d) is equal to the sum of e_o and e_v ($e_d = e_o + e_p$). This shows that the determination of the magnitude of e_d is very complex matter depending upon a number of variables like LP,

MEC etc. Since a part of the money is likely to be held by speculators as idle balances, e<i is likely to be less than unity; e_p will be greater than zero because $e_w > 0$ and $e_r <$ unity. Thus, it is clear that the price level will start rising even before the full employment level is attained. Keynes' analysis also shows that there is no direct or proportionate relation between M and P, in his analysis, the monetary and the real factors in the economy stand fully integrated.

1.2.3 Merits of Keynes' Version of the Quantity Theory of Money:

Keynes' version of the quantity theory stands in sharp comparison to the old classical theory and is considered superior to it on the following grounds:

(i) It Analyses the Casual Process:

Keynes' great merit lies in removing the old notion that prices are directly determined by the quantity of money. He brings to the fore the true and real causal process which exists between the quantity of money and prices. The relationship that exists is indirect and is brought through changes in the rate of interest.

(ii) It Does not Assume Full Employment:

The quantity theory of money, like all classical doctrines, is based on the assumption of full employment. As long as the human and material resources were taken to be fully employed, it was easy for the classical thinkers to say that an increase in the quantity of money was associated with or followed by a rise in the price level. Since, money in the classical scheme could not affect employment, it could raise prices only.

According to Prof. Dillard, "This leads to the conclusion that all increases in the quantity of money tend to be inflationary, a conclusion quite valid under the assumption that resources are fully employed, a nonsense conclusion when this special assumption is dropped." Keynes, on the other hand, does not assume full employment. To him unemployment is the rule and full employment only an exception. He says, "So long as there is unemployment, employment will change in the same proportion as the quantity of money; and when there is full employment, price will change in the same proportion as the quantity of money."

(iii) When to Dread Inflation:

Keynesian approach to the quantity theory of money helps us to look at inflation entirely from a different perspective. It tells us when dread inflation and when not to dread it. As long as there is unemployment of resources, inflation is not to be feared as it results in an increase in employment and output. But once the level of full employment is attained, true inflation begins and it becomes a real threat.

According to classicals, every increase in money supply results in inflation (as full employment was always presumed). To Keynes, only that increase in money supply results in inflation which takes

place beyond the level of full employment. Thus, Keynesian version shows a great advance on the traditional version of the quantity theory of money.

(iv) It Integrates Monetary Theory with the Theory of Value:

Another great merit of Keynes theory of money and prices is that it integrates monetary theory with the theory of value. Keynes gave up the traditional division of the economy into the real sector and the monetary sector and pointed out that there could be no monetary economy in which money was neutral. The integration of the theory of money with the theory of value on the one hand and with the theory of output on the other, was achieved through the rate of interest the missing link (rate of interest) was at last discovered.

According to value theory, the price (which is the value expressed in terms of money) is determined by the forces of demand and supply and the production is carried to the extent of the equality of the marginal cost with marginal revenue. Thus, the concepts of marginal cost, marginal revenue, demand and supply, their elasticities (specially in the short period) become important in the theory of value.

When Keynes discusses the theory of prices in general (price level), he emphasises cost of production, elasticity of demand, elasticity of supply and other concepts which are important in the theory of value of individual price determination. In his approach of money and prices, Keynes attempted to integrate the real and monetary sectors of the economy and as such he brought in the concept of elasticity no less into the theory of money than in the theory of value.

As such, he was concerned with the elasticities of prices in response to changes in aggregate demand and the elasticity of aggregate demand in response to changes is the quantity of money. Keynes shows that prices rise on account of the rise in costs of production; costs of production rise because of the inelasticity of short-period supply of output and employment. Front a monetary theory of prices, Keynes, thus, shifted to a monetary theory of output. This, in itself, turned out to be an important contribution as it resulted in a successful integration of the quantity theory of money with the theory of value.

Further, Keynes also integrated the theory of output with the theory of money. In fact, the integration of monetary theory with the theory of value is accomplished through the theory of output, in which the rate of interest, by influencing the volume of investment, plays a vital role. Changes in the quantity of money, by bringing about changes in the rate of interest affect investment and hence output and employment. As the volume of output and employment changes, the costs of production vary and prices are also affected. The traditional theory did not pay any heed, to the influence that the quantity of money exerts on the rate of interest and through it on income, output, employment and prices. Thus, in addition to integrating the theory of

output with the theory of money, Keynes also integrated the theory of output with the monetary theory (theory of money).

(v) It differentiates between the Determination of the General Price Level and Individual Prices:

Keynes theory 'differentiates' between the determination of the general price level and individual prices. Individual prices of various commodities are determined by the forces of demand and supply with reference to the nature of competition and the type of market, whereas a large number of considerations enter the determination of the general price level.

To him, the analysis of the fluctuations in the general price level is not so simple and straight as has been assumed by the exponents of the traditional quantity theory of money; that is, an increase in the volume of money will straightway raise the price level. The whole process is highly complicated and roundabout, certainly not so direct and simple as was claimed by the classical economists.

1.3 BAUMOL'S INVENTORY APPROACH TO TRANSACTIONS DEMAND FOR MONEY:

Instead of Keynes' speculative demand for money, Baumol concentrated on transactions demand for money and put forward a new approach to explain it. Baumol explains the transactions demand for money from the viewpoint of the inventory control or inventory management similar to the inventory management of goods and materials by business firms. As businessmen keep inventories of goods and materials to facilitate transactions or exchange in the context of changes in demand for them, Baumol asserts that individuals also hold inventory of money because this facilitates transactions (i.e. purchases) of goods and services. In view of the cost incurred on holding inventories of goods there is need for keeping optimal inventory of goods to reduce cost. Similarly, individuals have to keep optimum inventory of money for transactions purposes. Individuals also incur cost when they hold inventories of money for transaction purposes.

They incur cost on these inventories as they have to forgo interest which they could have earned if they had kept their wealth in saving deposits or fixed deposits or invested in bonds. This interest income forgone is the cost of holding money for transaction purposes. In this way Baumol and Tobin emphasised that transaction demand for money is not independent of the rate of interest. It may be noted that by money we mean currency and demand deposits which are quite safe and riskless but carry no interest. On the other hand, bonds yield interest or return but are risky and may involve capital loss if wealth holders invest in them. However, saving deposits in banks, according to Baumol, are quite free from risk and also yield some interest.

Therefore, Baumol asks the question why an individual holds money (i.e. currency and demand deposits) instead of keeping his wealth in saving deposits which are quite safe and earn some interest as well. According to him, it is for convenience and capability of it being

NOTES

easily used for transactions of goods that people hold money with them in preference to the saving deposits.

Unlike Keynes both Baumol and Tobin argue that transactions demand for money depends on the rate of interest. People hold money for transaction purposes "to bridge the gap between the receipt of income and its spending." As interest rate on saving deposits goes up people will tend to shift a part of their money holdings to the interest-bearing saving deposits. Individuals compare the costs and benefits of funds in the form of money with the interest- bearing saving deposits. According to Baumol, the cost which people incur when they hold funds in money is the opportunity cost of these funds, that is, interest income forgone by not putting them in saving deposits.

1.3.1 Baumol's Analysis of Transactions Demand:

Baumol analyses the transactions demand for money of an individual who receives income at a specified interval, say every month, and spends it gradually at a steady rate. This is illustrated in Fig. 15.4. It is assumed that individual is paid Rs. 12000 salary cheque on the first day of each month. Suppose he gets it cashed (i.e. converted into money) on the very first day and gradually spends it daily throughout the month (Rs. 400 per day) so that at the end of the month he is left with no money.

It can be easily seen that his average money holding in the month will be Rs. 12000/2 = Rs. 6000 (before 15th of a month he will be having more than Rs. 6,000 and after 15th day he will have less than Rs. 6,000). Average holding of money equal to Rs. 6,000 has been shown by the dotted line. Now, the question arises whether it is the optimal strategy of managing money or what is called optimal cash management. The simple answer is no. This is because the individual is losing interest which he could have earned if he had deposited some funds in interest-bearing saving deposits instead of withdrawing all his salary in cash on the first day. He can manage his money balances so as to earn some interest income as well.

Suppose, instead of withdrawing his entire salary on the first day of a month, he withdraws only half of it (i.e. Rs. 6,000) in cash and deposits the remaining amount of Rs. 6,000 in saving account which gives him interest of 5 per cent, his expenditure per day remaining constant at Rs. 400. This is illustrated in Fig. 15.5.

It will be seen that his money holdings of Rs. 6,000 will be reduced to zero at the end of the 15th day of each month. Now, he can withdraw Rs. 6,000 on the morning of 16th of each month and then spends it gradually, at a steady rate of 400 per day for the next 15 days of a month. This is a better method of managing funds as he will be earning interest on Rs. 6,000 for 15 days in each month. Average money holdings in this money management scheme is Rs. 6000/2 = 3000.

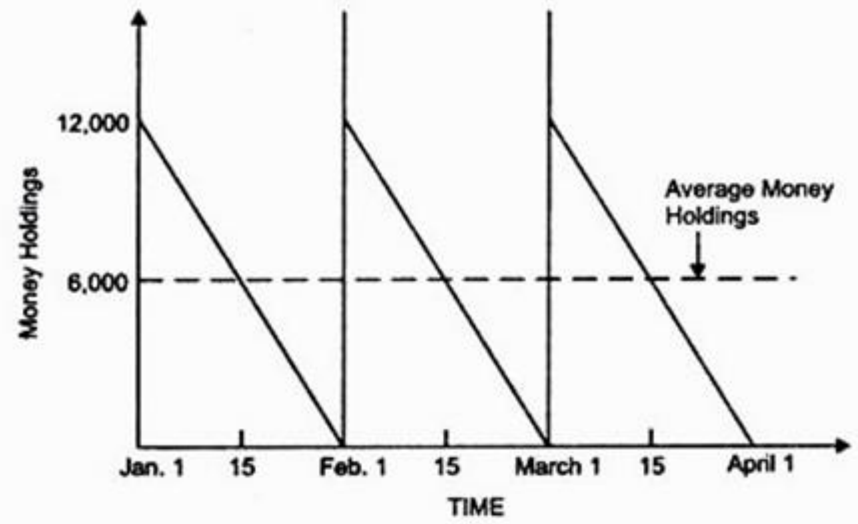


Fig. 15.4. *Stream of Cash Payments and Transactions Demand for Money.*

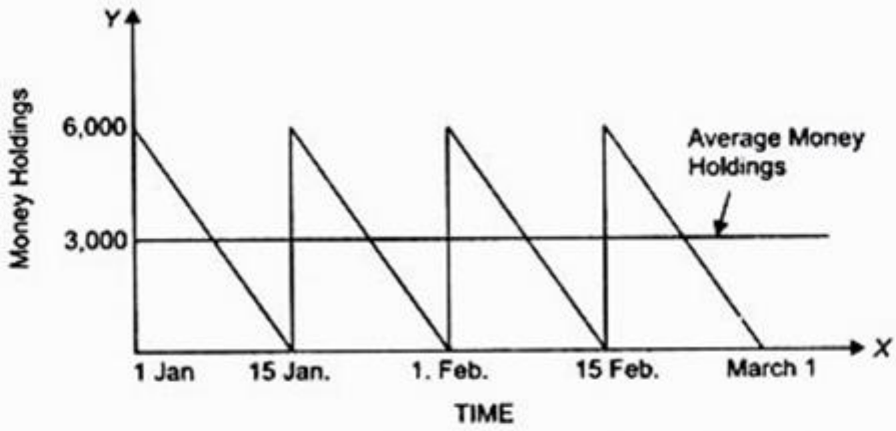


Fig. 15.5. *Transactions Demand for Money and Stream of Cash Payments.*

Likewise, the individual may decide to withdraw Rs. 4,000 (i.e., 1/3rd of his salary) on the first day of each month and deposits Rs. 8,000 in the saving deposits. His Rs. 4,000 will be reduced to zero, as he spends his money on transactions (that is, buying of goods and services), at the end of the 10th day and on the morning of 11th of each month he again withdraws Rs. 4,000 to spend on goods and services till the end of the 20th day and on 21st day of the month he again withdraws Rs. 4,000 to spend steadily till the end of the month.

In this scheme on an average he will be holding Rs. 4000/2 =2000 and will be investing remaining funds in saving deposits and earn interest on them. Thus, in this scheme he will be earning more interest income. Now, which scheme will he decide to adopt? It may be noted that investing in saving deposits and then withdrawing cash from it to meet the transactions demand involves cost also. Cost on brokerage fee is incurred when one invests in interest-bearing bonds and sells them.

Even in case of saving deposits, the asset which we are taking for illustration, one has to spend on transportation costs for making extra trips to the bank for withdrawing money from the Savings Account. Besides, one has to spend time in the waiting line in the bank to withdraw cash each time from the saving deposits. Thus, the greater the number of times an individual makes trips to the bank for withdrawing money, the greater the broker's fee he will incur. If he withdraws more cash, he will be avoiding some costs on account of brokerage fee. Thus, individual faces a trade-off problem; the greater the amount of pay cheque he withdraws in cash, less the cost on account of broker's fee but the greater the opportunity cost of forgoing interest income.

The problem is therefore to determine an optimum amount of money to hold. Baumol has shown that optimal amount of money holding is determined by minimizing the cost of interest income forgone and broker s fee. Let us elaborate it further. Let the size of the pay cheque (i.e. salary) be denoted by Y, the average amount of the cash he withdraws each time the individual goes to the bank by C, the number of times he goes to the bank to withdraw cash by T, broker's fee which he has to bear each time he makes a trip to the bank by b. In the first scheme of money management when he gets his whole pay-cheque cashed on the first day of every month he incurs broker's fee only once since he makes only a single trip to the bank. Thus

T in our first case is equal to one $T = \frac{Y}{C} = \frac{12000}{12000} = 1$ because in this case $C = Y$. In the second case $T = \frac{12000}{6000} = 2$ and in the third case $T = \frac{12000}{4000} = 3$.

Interest income lost by holding money is the average amount of money holding multiplied by the interest rate. As seen above, average money held is one half of cash withdrawn each time $\left(i.e.\ \frac{C}{2}\right)$.

Thus, interest income lost in the first case is $\frac{rC}{2} = \frac{5}{100} \times \frac{1200}{2}$ = ₹ 300, in the second case interest lost $= r.\frac{C}{2} = \frac{5}{100} \times \frac{6000}{2} = 150$ and in the third case it is $\frac{5}{100} \times \frac{4000}{2} = 100$.

Thus the total cost incurred on broker's fee and interest income forgone is given by

$$\text{Total Cost} = bT + \frac{r.C}{2}$$

where b stands for broker's fee.

As seen above $$T = \frac{Y}{C}$$

Therefore, $$\text{Total Cost} = \frac{Y}{C}b + \frac{r.C}{2}$$

Baumol has shown that average amount of cash withdrawal which minimises cost is given by

$$C = \sqrt{\frac{2bY}{r}}$$

This means that average amount of cash withdrawal which minimizes cost is the square root of the two times broker's fee multiplied by the size of individual's income (Y) and divided by the interest rate. This is generally referred to as Square Root Rule. For this rule, it follows that a higher broker's fee will raise the money holdings as it will discourage the individuals to make more trips to the bank.

On the other hand, a higher interest rate will induce them to reduce their money holdings for transaction purposes as they will be induced to keep more funds in saving deposits to earn higher interest income. That is, at a higher rate of interest transactions demand for money holdings will decline.

Keynes thought that transactions demand for money was independent of rate of interest. According to him, transactions demand for money depends on the level of income. However, Baumol and Tobin have shown that transactions demand for money is sensitive to rate of interest. Interest represents the opportunity cost of holding money instead of bonds, saving and fixed deposits.

The higher the rate of interest, the greater the opportunity cost of holding money (i.e. the greater the interest income forgone for holding money for transactions). Therefore, at a higher rate of interest people will try to economies the use of money and will demand less money for transactions. At a lower interest rate on bonds, saving and fixed deposits, the opportunity cost of holding money will be less which will prompt people to hold more money for transactions. Therefore, according to Baumol and Tobin, transactions demand curve for money slopes downward as shown in Fig. 15.6. At higher interest rates, bonds, savings and fixed deposits are more attractive relative to money holding for transactions. Therefore, at higher interest rates people tend to hold less money for transaction purposes. On the other hand, when the rates of interest are low, opportunity cost of holding money will be less and, as a consequence, people will hold more money for transactions. Therefore, the curve of transactions demands for money slopes downward.

It will be observed from the square root rule given above that transactions demand for money varies directly with the income (Y) of the individuals. Therefore, the higher the level of income, the greater the transactions demand for money at a given rate of interest. In Fig. 15.6. the three transactions demand curves for money M_d, M_d' and M_d", for three different income levels, Y_1, Y_2, $Y_3$are shown.

It will be known from the square root rule that optimum money holding for transactions will increase less than proportionately to the increase in income. Thus, transactions demand for money, according to Baumol and Tobin, is function of both rate of interest and the level of income.

$$M_{td} = f(r, y)$$

where M_{td} stands for transactions demand for money, r for rate of interest and Y for the level of income.

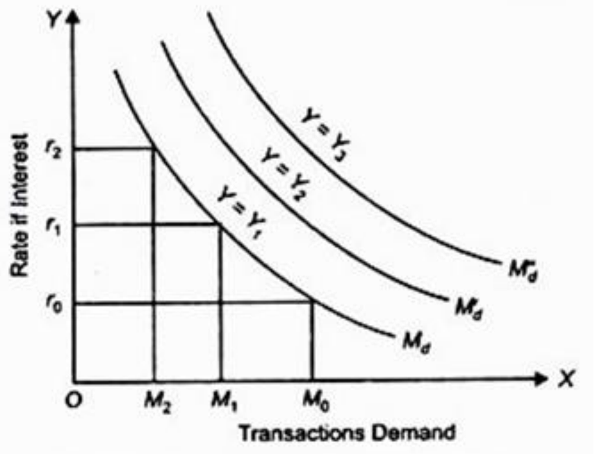


Fig. 15.6. *Transactions Demand for Money : Baumol-Tobin Approach.*

1.4 TOBIN'S PORTFOLIO APPROACH TO DEMAND FOR MONEY:

American economist James Tobin, in his important contribution, explained that rational behaviour on the part of the individuals is that they should keep a portfolio of assets which consists of both bonds and money. In his analysis he makes a valid assumption that people prefer more wealth to less. According to him, an investor is faced with a problem of what proportion of his portfolio of financial assets he should keep in the form of money (which earns no interest) and interest-bearing bonds.

The portfolio of individuals may also consist of more risky assets such as shares. According to Tobin, faced with various safe and risky assets, individuals diversify their portfolio by holding a balanced combination of safe and risky assets. He points out that individual's behaviour shows risk aversion. That is, they prefer less risk to more risk at a given rate of return. In Keynes' analysis an individual holds his wealth in either all money or all bonds depending upon his estimate of the future rate of interest. But, according to Tobin, individuals are uncertain about future rate of interest.

If a wealth holder chooses to hold a greater proportion of risky assets such as bonds in his portfolio, he will be earning a high average return but will bear a higher degree of risk. Tobin argues that a risk averter will not opt for such a portfolio with all risky bonds or a greater proportion of them.

On the other hand, a person who, in his portfolio of wealth, holds only safe and riskless assets such as money (in the form of currency and demand deposits in banks) he will be taking almost zero risk but will also be having no return and as a result there will be no growth of his wealth. Therefore, people generally prefer a mixed

diversified portfolio of money, bonds and shares, with each person opting for a little different balance between riskiness and return.

It is important to note that a person will be unwilling to hold all risky assets such as bonds unless he obtains a higher average return on them. In view of the desire of individuals to have both safety and reasonable return, they strike a balance between them and hold a mixed and balanced portfolio consisting of money (which is a safe and riskless asset) and risky assets such as bonds and shares though this balance or mix varies between various individuals depending on their attitude towards risk and hence their trade-off between risk and return.

1.4.1 Tobin's Liquidity Preference Function:

Tobin derived his liquidity preference function depicting relationship between rate of interest and demand for money (that is, preference for holding wealth in money form which is a safe and "riskless" asset. He argues that with the increase in the rate of interest {i.e. rate of return on bonds), wealth holders will be generally attracted to hold a greater fraction of their wealth in bonds and thus reduce their holding of money. That is, at a higher rate of interest, their demand for holding money (i.e., liquidity) will be less and therefore they will hold more bonds in their portfolio. On the other hand, at a lower rate of interest they will hold more money and less bonds in their portfolio. This means, like Keynes' speculative demand for money, in Tobin's portfolio approach demand function for money as an asset (i.e. his liquidity preference function curve) slopes downwards as is shown in Fig. 15.3, where on the horizontal axis asset demand for money is shown.

This downward-sloping liquidity preference function curve shows that the asset demand for money in the portfolio increases as the rate of interest on bonds falls. In this way Tobin derives the aggregate liquidity preference curve by determining the effects of changes in interest rate on the asset demand for money in the portfolio of individuals. Tobin's liquidity preference theory has been found to be true by the empirical studies conducted to measure interest elasticity of the demand for money.

As shown by Tobin through his portfolio approach, these empirical studies reveal that aggregate liquidity preference curve is negatively sloped. This means that most of the people in the economy have liquidity preference function similar to the one shown by curve M_d in Fig. 15.3.

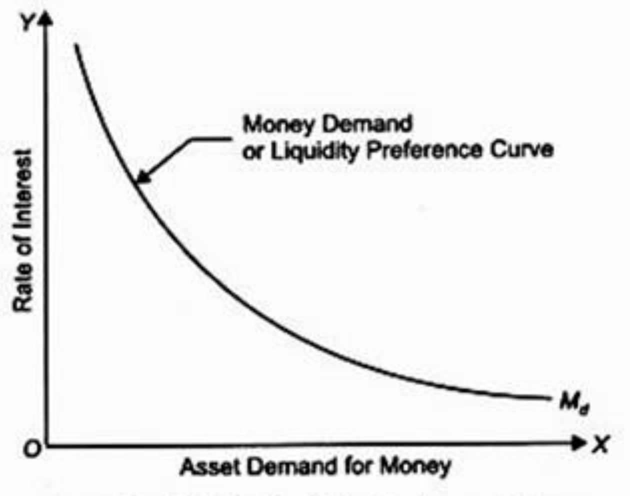


Fig. 15.3. *Tobin's Liquidity Preference Curve.*

1.4.2 Evaluation:

Tobin's approach has done away with the limitation of Keynes' theory of liquidity preference for speculative motive, namely, individuals hold their wealth in either all money or all bonds. Thus, Tobin's approach, according to which individuals simultaneously hold both money and bonds but in different proportion at different rates of interest, yields a continuous liquidity preference curve. Further, Tobin's analysis of simultaneous holding of money and bonds is not based on the erroneous Keynes' assumption that interest rate will move only in one direction but on a simple fact that individuals do not know with certainty which way the interest rate will change. It is worth mentioning that Tobin's portfolio approach, according to which liquidity preference (i.e. demand for money) is determined by the individual attitude towards risk, can be extended to the problem of asset choice when there are several alternative assets, not just two, of money and bonds.

1.5 FRIEDMAN'S THEORY OF DEMAND FOR MONEY:

A noted monetarist economist Friedman put forward demand for money function which plays an important role in his restatement of the quantity theory of money and prices. Friedman believes that money demand function is most important stable function of macroeconomics. He treats money as one type of asset in which wealth holders can keep a part of their wealth. Business firms view money as a capital good or a factor of production which they combine with the services of other productive assets or labour to produce goods and services. Thus, according to Friedman, individuals hold money for the services it provides to them.

It may be noted that the service rendered by money is that it serves as a general purchasing power so that it can be conveniently used for buying goods and services. His approach to demand for money

does not consider any motives for holding money, nor does it distinguish between speculative and transactions demand for money. Friedman considers the demand for money merely as an application of a general theory of demand for capital assets. Like other capital assets, money also yields return and provides services. He analyses the various factors that determine the demand for money and from this analysis derives demand for money function. Note that the value of goods and services which money can buy represents the real yield on money.

Obviously, this real yield of money in terms of goods and services which it can purchase will depend on the price level of goods and services. Besides money, bonds are another type of asset in which people can hold their wealth. Bonds are securities which yield a stream of interest income, fixed in nominal terms. Yield on bond is the coupon rate of interest and also anticipated capital gain or loss due to expected changes in the market rate of interest.

Equities or Shares are another form of asset in which wealth can be held. The yield from equity is determined by the dividend rate, expected capital gain or loss and expected changes in the price level. The fourth form in which people can hold their wealth is the stock of producer and durable consumer commodities. These commodities also yield a stream of income but in kind rather than in money. Thus, the basic yield from commodities is implicit one. However, Friedman also considers an explicit yield from commodities in the form of expected rate of change in their price per unit of time.

1.5.1 Friedman's nominal demand function (M_d) for money can be written as:

$$M_d = f(W, h, r_m, r_b, r_e, P, \Delta P/P, U)$$

As demand for real money balances is nominal demand for money divided by the price level, demand for real money balances can be written as:

$$M_d/P = f(W, h, r_m, r_b, r_e, P, \Delta P/P, U)$$

where M_d stands for nominal demand for money and M_d/P for demand for real money balances, W stands for wealth of the individuals, h for the proportion of human wealth to the total wealth held by the individuals, r_m for rate of return or interest on money, r_b for rate of interest on bonds, r_e for rate of return on equities, P for the price level, $\Delta P/P$ for the change in price level (i.e. rate of inflation), and U for the institutional factors.

1. Wealth (W):

The major factor determining the demand for money is the wealth of the individual (W). In wealth Friedman includes not only non-human wealth such as bonds, shares, money which yield various rates of return but also human wealth or human capital. By human wealth Friedman means the value of an individual's present and future earnings. Whereas non-human wealth can be easily converted into money, that is, can be made liquid. Such substitution of human wealth is not easily possible. Thus human wealth represents illiquid

component of wealth and, therefore, the proportion of human wealth to the non-human wealth has been included in the demand for money function as an independent variable.

Individual's demand for money directly depends on his total wealth. Indeed, the total wealth of an individual represents an upper limit of holding money by an individual and is similar to the budget constraint of the consumer in the theory of demand. The greater the wealth of an individual, the more money he will demand for transactions and other purposes. As a country becomes richer, its demand for money for transaction and other purposes will increase. Since as compared to non- human wealth, human wealth is much less liquid, Friedman has argued that as the proportion of human wealth in the total wealth increases, there will be a greater demand for money to make up for the illiquidity of human wealth.

2. Rates of Interest or Return (r_m, r_b, r_e):

Friedman considers three rates of interest, namely, r_m, r_b and r_e which determine the demand for money. r_m is the own rate of interest on money. Note that money kept in the form of currency and demand deposits does not earn any interest. But money held as saving deposits and fixed deposits earns certain rates of interest and it is this rate of interest which is designated by r_m in the money demand function. Given the other rates of interest or return, the higher the own rate of interest, the greater the demand for money. In deciding how large a part of his wealth to hold in the form of money the individual will compare the rate of interest on money with rates of interest (or return) on bonds and other assets. The opportunity cost of holding money is the interest or return given up by not holding these other forms of assets.

As rates of return on bond (r_b) and equities (r_e) rise, the opportunity cost of holding money will increase which will reduce the demand for money holdings. Thus, the demand for money is negatively related to the rate of interest (or return) on bonds, equities and other such non-money assets.

3. Price Level (P):

Price level also determines the demand for money balances. A higher price level means people will require a larger nominal money balance in order to do the same amount of transactions, that is, to purchase the same amount of goods and services. If income (Y) is used as proxy for wealth (W) which, as stated above, is the most important determinant of demand for money, then nominal income is given by Y.P which becomes a crucial determinant of demand for money. Here Y stands for real income (i. e. in terms of goods and services) and P for price level. As the price level goes up, the demand for money will rise and, on the other hand, if price level falls, the demand for money will decline. As a matter of fact, people adjust the nominal money balances (M) to achieve their desired level of real money balance (M/P).

4. The Expected Rate of Inflation (∆P/P):

If people expect a higher rate of inflation, they will reduce their demand for money holdings. This is because inflation reduces the value of their money balances in terms of its power to purchase goods and services. If the rate of inflation exceeds the nominal rate of interest, there will be negative rate of return on money. Therefore, when people expect a higher rate of inflation they will tend to convert their money holdings into goods or other assets which are not affected by inflation. On the other hand, if people expect a fall in the price level, their demand for money holdings will increase.

5. Institutional Factors (U):

Institutional factors such as mode of wage payments and bill payments also affect the demand for money. Several other factors which influence the overall economic environment affect the demand for money. For example, if recession or war is anticipated, the demand for money balances will increase. Besides, instability in capital markets, which erodes the confidence of the people in making profits from investment in bonds and equity shares, will also raise the demand for money. Even political instability in the country influences the demand for money. To account for these institutional factors Friedman includes the variable U in his demand for money function.

1.6 Self-Assessment Questions

Part – A

1. Who is reformulated quantity theory of money?
2. Who is the author of portfolio approach to demand for money?

Part – B

1. Write a note on Quantity theory of money.
2. What are the advantages of Quantity theory of money?
3. Briefly explain the concept of Tobin Portfolio approach.

Part – C

1. Discuss the Baumal’s Inventory Approach to Transaction Demand for Money.

Unit-II: Economic Growth

Contents

2.1 INTRODUCTION

Under the theories of economic growth, economists have explained economic factors and their impact on economic growth. The evolution of economic growth theories can be drawn back from Adam Smith's book, Wealth of Nation. In his book, he emphasized a view that the growth of an economy depends on division of labor. After that, the view presented by Smith was further succeeded by classical economists, such as Ricardo, Malthus, and Mill. The theory developed by these economists is known as classical theory of economic growth.

"The most necessary condition for the growth of an economy is that the demand created due to newly generated income should be sufficient enough, so that the output produced by the new investment (increase in capital) should be fully absorbed"-Harrod-Domar theory.

Further, in late 19th and 20th centuries, Karl Marx presented a theory called theory of historical growth and Schumpeter developed a growth theory of technological innovations. Finally, in late 1930s, R. F. Harrod and E. Domar presented more relevant theory of economic growth popularly known as Harrod-Domar theory. Later, neo-classical theory of economic growth was also introduced. Harrod-Domar theory and neo-classical theory explain modern growth behavior more clearly by analyzing different economic aspects.

2.2 DEFINITION OF ECONOMIC GROWTH

Economic growth refers to an increase in the goods and services produced by an economy over a particular period of time. It is measured as a percentage increase in real gross domestic product which is GDP adjusted to inflation. GDP is the market value for all the final goods and services produced in an economy.

Theories of Economic Growth

2.2.1 The Classical Approach

Adam Smith laid emphasis on increasing returns as a source of economic growth. He focused on foreign trade to widen the market and raise productivity of trading countries. Trade enables a country to buy goods from abroad at a lower cost as compared to which they can be produced in the home country.

In modern growth theory, Lucas has strongly emphasized the role of increasing returns through direct foreign investment which encourages learning by doing through knowledge capital. In Southeast Asia, the newly industrialized countries (NICs) have achieved very high growth rates in the last two decades.

2.2.2 The Neoclassical Approach

The neoclassical approach to economic growth has been divided into two sections −

- The first section is the competitive model of Walrasian equilibrium where markets play a very crucial role in allocating the resources effectively. To secure the optimal allocation of inputs and outputs, markets for labor, finance and capital have been used. This type of competitive paradigm was used by Solow to develop a growth model.
- The second section of the neoclassical model assumes that technology is given. Solow used the interpretation that technology in the production function is superficial. The point is that R&D investment and human capital through learning by doing were not explicitly recognized.

The neoclassical growth model developed by Solow fails to explain the fact of actual growth behavior. This failure is caused due to the model’s prediction that per capita output approaches a steady state path along which it grows at a rate that is given. This means that the long-term rate of national growth is determined outside the model and is independent of preferences and most aspects of the production function and policy measures.

2.2.3 The Modern Approach

The modern approach to market comprises of several features. The new economy emerging today is spreading all over the world. It is a revolution in knowledge capital and information explosion. Following are the important key elements −

- Innovation theory by Schumpeter, inter firm and inter industry diffusion of knowledge.
- Increasing efficiency of the telecommunications and micro-computer industry.
- Global expansion of trade through modern externalities and networks.

Modern theory of economic growth focuses mainly on two channels of inducing growth through expenses spent on research and development on the core component of knowledge innovations. First channel is the impact on the available goods and services and the other one is the impact on the stock of knowledge phenomena.

2.3 HARROD-DOMAR THEORY:

Harrod-Domar theory is considered as the extension of Keynes' short-term analysis of full employment and income theory. The Harrod-Domar growth model provides a long-term theory of output. The economists started paying their attention toward economic stability after the Great Depression of 1930s and economic ruin caused by World War II. Harrod and Domar have provided a model that focuses on the requirements necessary for steady economic growth. According to them, capital accumulation constitutes a major factor for the growth of an economy.

According to the Harrod-Domar model, economic growth depends on two important factors, viz., the saving ratio (i.e., the percentage of national income saved per annum) and the capital-output ratio. Since the capital-output ratio remains constant in the short run, the rate of growth of a nation depends largely on the rate of saving. A country which has the capacity to save and invest at least 20 to 25% of its national income will be able to achieve a satisfactory growth rate of 5 to 6% per annum.

In the words of Daniel Fusfeld, "The modern economy is a gigantic mechanism for the generation of an economic surplus and the accumulation of capital. In a modern economy, the surplus is used to increase output. It is transformed into capital goods and knowledge (technology) that raise the productive potential of the economy.

In the Harrod-Domar model the rate of growth of an economy (g) is expressed as:

$$g = (s/v) \times 100\%$$

where s is the saving ratio and v is the incremental capital-output ratio. If s = 10 % and v = 3⅓, g will be 3%. This implies that if 100 units of capital are required to produce 33 units of output in a country and the country can save and invest 10% of its national income per annum, it can achieve per capita income growth of 3% per annum. If s increases to 20% g will be 6%, provided v remains constant. The Harrod-Domar model may now be discussed in detail.

2.3.1 Saving, Investment and Growth: the Harrod-Domar Model:

The problem of aggregate supply and demand in the long run is complicated by the dual role of investment. Investment creates demand — via the multiplier, just as it creates supply — adding to society's productive capacity. The question is: which aspect is more important if we consider a long period of time.

This problem led, in the period after Keynes' General Theory, to a number of attempts to make that theory dynamic, i.e., to enable us to predict not only national income in a particular period but also its path of change over time. An example of this kind of approach is the celebrated Harrod-Domar model.

This theory was developed independently by Sir Roy Harrod and Evsey Domar. The theory involves an examination of the following equation, in which Y stands for annual national income (or output), AY for a year's increase in national income, I for annual investment and S for annual savings:

$$\frac{\Delta Y}{Y} = \frac{\Delta Y}{I} = \frac{S}{Y}$$

By making certain assumptions, we can use this equation to show some of the difficulties of keeping aggregate supply and demand in proper balance in a growing economy. To start with, let us suppose that the fraction of income people wish to save is some fixed number, say, one-tenth. This is quite a realistic assumption. Although in the short run the marginal propensity to save might be expected to rise with income, something else happens in the long run, inasmuch as people have enough time to adjust their living standards to higher levels of income.

We also assume that the amount of machinery and other capital goods used to produce a given level of output remains more or less fixed. Now, we can argue that the term AY/I, which represents the

increase in income in a year divided by the increase in the stock of capital (i.e., investment) in a year, will be some pure number — say 1/3. In other words, business people who expand their plants and equipment by Rs 3 and will have the capacity for producing Re. 1 a year more output than before. Hence, 1/3 is the incremental capital-output ratio. Now, from these first it is possible to determine a 'rate of growth' for this economy. In equilibrium, the amount that households desire to save will have to be equal to the amount that businesspeople wish to invest, or S = l.

Hence, growth can be expressed as:

$$g = \frac{S}{Y}.\frac{\Delta Y}{I} = \frac{I}{Y}.\frac{\Delta Y}{I} = \frac{\Delta Y}{I} \quad \text{.......(1)}$$

ΔY/Y being the increase in output divided by the initial level of output, or the rate of growth of economy. In our example, it will be equal to 1/30 or 3.3%.

$$\Delta Y/Y = \Delta Y/I.S/Y = (1/3)\ (1/10) = (1/30) = 3.3\%$$

2.3.2 Problem with Model:

However, there is one major problem with the model. The growth rate that keeps investment and saving happily in balance (sometimes called the equilibrium or warranted rate of growth) may be quite different from the rate at which population is growing, called the natural rate of growth. In this theory, there really is no guarantee at all that aggregate supply and aggregate demand will grow in harmony over time. On the contrary, the system is for ever poised toward runaway inflations or depressions, called knife-edge instability.

So, in this model the economy more on a razor's edge, or misstep in either direction being fatal. However, while discussing the 'knife-edge' properties of steady-state growth path Harrod argued that potential accelerator and the saving rate that drove the actual growth rate back the warranted growth rate every time it deviated from it.

2.3.3 Usefulness of the model:

The model highlights certain important points, viz., saving leads to an increase in investment, which leads to an increase in income (through the incremental capital/output ratio), which leads to more saving, more investment and more income.

Capital accumulation, expansion of labour force and technical progress are given specific roles by Harrod in his model, but he also examined the role of expectations and possibilities of instability arising there-from. He has brought into focus the fundamental economics of growth, the necessary relations existing between dynamic elements —

population change, technological progress and long-term saving — of an advancing society. He also emphasised the dual character of investment — it generates income and adds to the productive capacity of the economy.

Harrod and Domar were particularly concerned with the role of investment as capital accumulation and as a component of aggregate demand. Their model incorporated a simple accelerating investment function based on expected real income.

2.3.4 Basic issues of Harrod-Domar Model

1. Whether or not steady-state growth is possible;
2. The probability of steady-state growth at full employment;
3. The stability or otherwise of the warranted rate of growth.

2.3.5 Criticisms:

The Harrod-Domar model neglected the effects of relative prices on factor proportions, implying they were in fixed ratio. So, even though they implied an aggregate production function they escaped the main criticisms of the production function incorporated into the neo-classical growth model.

Criticism of Harrod's theory is generally targeted at his behavioural assumption that producers invest only to meet expected demand in the next time period. This assumption eliminates any long-term investment plans, or anticipation of long-term demand trends, by producers.

A related criticism is that producers are not required to respond to unanticipated demand levels only by varying their output. Price variations, of course, are another option that would be particularly useful in the short run.

2.3.6 Conclusion:

The Harrod-Domar model set the scene for subsequent work on growth as their framework was sufficiently general to incorporate technical progress, money and other effects.

2.4 Self-Assessment Questions

Part – A

3. Define the term Economic Growth
4. Write three approach of Economic Growth.
5. List out the basic issues of Harrod-Domar model

Part – B

4. Write a note on neo classical approach of economic growth.
5. Briefly explain the Harrod-Domar model for Saving, Investment and Growth.
6. List out the usefulness of the Harrod-Domar model for growth.

Part – C

2. Explain detail the Harrod-Domar model for Economic Growth.

UNIT-III: THE OPEN ECONOMY

Contents

3.1 INTRODUCTION

An economy open to international trade and payments will face different problems than an economy closed to the rest of the world. The typical introductory economics presentation of macroeconomic equilibrium and policy is a closed-economy view. Discussions of economic adjustments required to combat unemployment or inflation do not consider the rest of the world. Clearly, this is no longer an acceptable approach in an increasingly integrated world.

In the open economy, we can summarize the desirable economic goals as being the attainment of internal and external balance. Internal balance means a steady growth of the domestic economy consistent with a low unemployment rate. External balance is the achievement of a desired trade balance or desired international capital flows. In principles of economics classes, the emphasis is on internal balance. By concentrating solely on internal goals like inflation, unemployment, and economic growth, simpler-model economies may be used for analysis. A consideration of the joint pursuit of internal and external balance calls for a more detailed view of the economy. The slight increase in complexity yields a big payoff in terms of a more realistic view of the problems facing the modern policy maker. It is no longer a question of changing policy to change unemployment or inflation at home. Now the authorities must also

consider the impact on the balance of trade, capital flows, and exchange rates.

3.2 MEANING OF THE MUNDELL-FLEMING MODEL:

The basic Mundell-Fleming model — like the IS-LM model — is based on the assumption of fixed price level and shows the interaction between the goods market and the money market. The model explains the causes of short-run fluctuations in aggregate income (or, what comes to the same thing, shifts in the ad curve) in an open economy. The Mundell-Fleming model is based on a very restrictive assumption. It considers a small open economy with perfect capital mobility.

This means that the economy can borrow or lend freely from the international capital markets at the prevailing rate of interest since its domestic rate of interest is determined by the world rate of interest. So, the rate of interest is not a policy variable in the small economy being studied.

This means that macroeconomic adjustment occurs only through exchange rate changes. In other words, the brunt of adjustment is borne by exchange rate movements in foreign exchange markets to maintain the officially determined exchange rate. The central bank permits the exchange rate to move up or down in response to changing economic conditions.

The main prediction from the Mundell-Fleming model is that the behaviour of an economy depends crucially on the exchange rate system it adopts, i.e., whether it operates a floating exchange rate system or a fixed exchange rate system.

3.3 OPEN ECONOMY: IS-LM-BP

The IS-LM-BP model (also known as IS-LM-BoP or Mundell-Fleming model) is an extension of the *IS-LM model*, which was formulated by the economists *Robert Mundell* and *Marcus Fleming*, who made almost simultaneously an analysis of open economies in the 60s. Basically we could say that the Mundell-Fleming model is a version of the IS-LM model for an open economy. In addition to the balance in *goods* and financial markets, the model incorporates an analysis of the *balance of payments*.

Even though both economists researched about the same topic, at about the same time, both have different analyses. Mundell's paper "Capital Mobility and Stabilization Policy under Fixed and Flexible

Exchange Rates", 1963, analyses the case of perfect *mobility of capital*, while Fleming´s model, depicted in his article "Domestic Financial Policies under Fixed and under Floating Exchange Rates", 1962, was more realistic as it assumed imperfect capital mobility, and thus made this one a more rigorous and comprehensive model. However, nowadays, his model has lost cogency, as the actual world situation has more resemblance with total capital mobility, which corresponds better to Mundell's view.

In order to understand how this model works, we'll first see how the IS curve, which represents the equilibrium in the goods market, is defined. Secondly, the LM curve, which represents the equilibrium in the money market. Thirdly, the BP curve, which represents the equilibrium of the balance of payments. Finally, we'll analyse how the equilibrium is reached.

3.3.1 IS Curve: The Market for Goods and Services

In an open economy, the equilibrium condition in the market for goods is that *production* (Y), is equal to the demand for goods, which is the sum of *consumption*, *investment*, *public spending* and *net exports*. This relationship is called IS. If we define consumption (C) as C = C(Y-T) where T corresponds to taxes, the equilibrium would be given by:

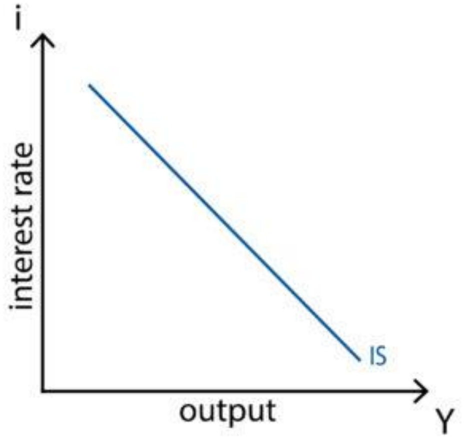
$$Y = C(Y - T) + I + G + NX$$

We consider that investment is not constant, and we see that it depends mainly on two factors: the level of sales and interest rates. If the sales of a firm increase, it will need to invest in new production plants to raise *production*; it is a positive relation. With regard to interest rates, the higher they are, the more expensive investments are, so that the relationship between interest rates and investment is negative. Now, in addition to what we have in the IS-LM model, since we have net exports, we have also to take into account the exchange rates, which directly affect net exports. Let's say e is the domestic price of foreign currency or, in other words, how many units of our own currency have to be given up to receive 1 unit of the foreign currency. The new relationship is expressed as follows (where i is the interest rate):

$$Y = C(Y - T) + I(Y, i) + G + NX(e)$$

If we keep in mind the equivalence between production and demand, which determines the equilibrium in the market for goods, and observe the effect of interest rates, we obtain the IS curve. This curve represents the value of equilibrium for any interest rate.

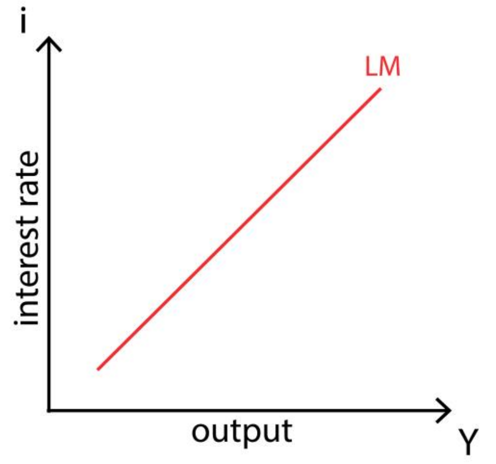
An increasing interest rate will cause a reduction in production through its effect on investment. Therefore, the curve has a negative slope. The adjacent graph shows this relationship.



As stated before, we also need to analyse changes in exchange rates (here, e). If e decreases, then we'll be able to buy more foreign currency with less of our own currency. On the other hand, foreigners we'll need to pay more of their currency to buy our own. Therefore, when e decreases, also called an appreciation under flexible exchange rates or a revaluation under fixed exchange rates, domestic residents have more purchasing power, thus being able to buy the same amount of goods using less domestic currency. The opposite works in the same way: if e increases (also called a depreciation under flexible exchange rates or a devaluation under fixed exchange rates), domestic residents will pay more for the same goofromTo sum up, an increase in e causes net exports to increase (IS curve shifts to the right) and a decrease in e causes net export to decrease (IS curve shifts to the left).

3.3.2 LM Curve: The Market for Money

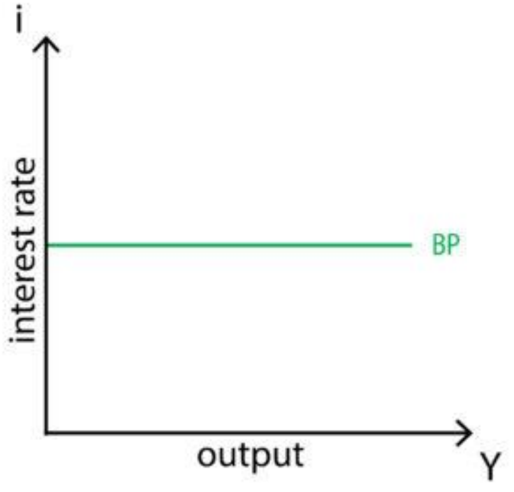
The LM curve represents the relationship between liquidity and money. In an open economy, the interest rate is determined by the equilibrium of *supply and demand* for money: M/P=L(i,Y) considering M the amount of money offered, Y real income and i real interest rate, being L the demand for money, which is function of i and Y. Also, the exchange rate must be analysed since it affects money demand (investors may decide buy or sell bonds in a country depending on the exchange rate).



The equilibrium of the money market implies that, given the amount of money, the interest rate is an increasing function of the output level. When output increases, the demand for money raises, but, as we have said, the money supply is given. Therefore, the interest rate should rise until the opposite effects acting on the demand for money are cancelled, people will demand more money because of higher income and less due to rising interest rates.

The slope of the curve is positive, contrary to what happened in the IS curve. This is because the slope reflects the positive relationship between output and interest rates.

3.3.3 BP Curve: The Balance of Payments



The BP curve shows at which points the balance of payments is at equilibrium. In other words, it shows combinations of production and interest rates that guarantee that the balance of payments is viably financed, which means that the volume of net exports that affect total production must be consistent with the volume of *net capital outflows*. It will usually slope up since the higher the production, the higher the

imports, which will disturb the equilibrium of the balance of payments, unless interest rates rise (which would cause capital inflows to maintain the equilibrium). However, depending in how great the mobility of capital is, it will have a greater or smaller slope: the higher the mobility, the flatter the curve.

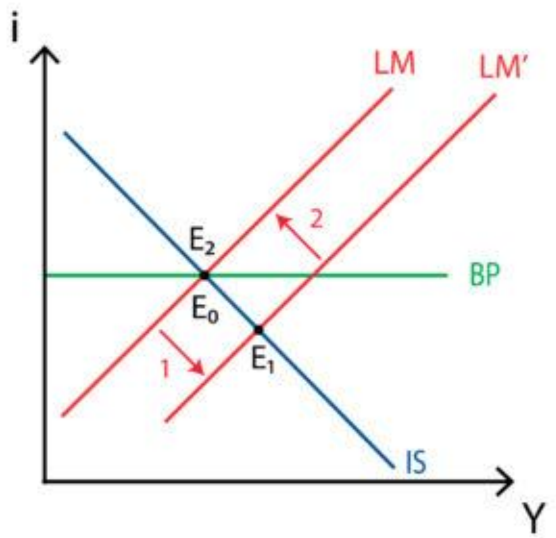
Once the BP curve is derived, there is an important thing to know about how to use it. Any point above the BP curve will mean a balance of payments surplus. Any points below the BP curve will mean a balance of payments deficit. This is important since depending where we are, different things may affect the interest rates.

3.3.4 The IS-LM-BP Model

In the model we distinguish between perfect and imperfect capital mobility, but also between fixed and flexible exchange rates. For each of these cases, we'll see what happens when both an expansionary *monetary* and *fiscal policy* are applied to the economy. We'll first review Mundell's model, which deals with perfect mobility. Then, we'll analyse Fleming's imperfect mobility model.

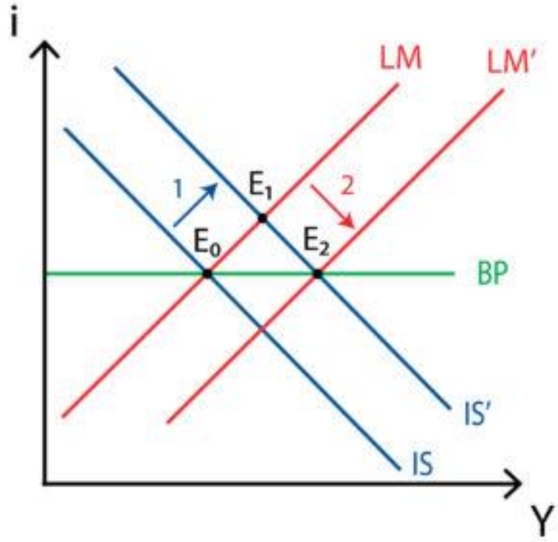
3.3.5 Perfect Capital Mobility

Fixed exchange rate



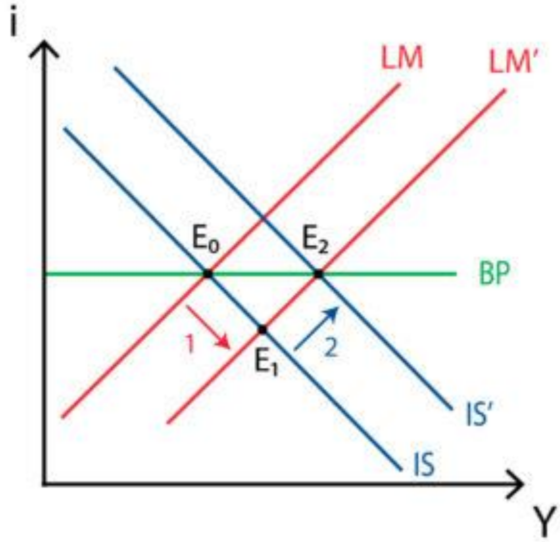
An expansionary monetary policy will shift the LM curve to LM', which makes the equilibrium go from point E_0 to E_1. However, since we are below the BP curve, we know the economy has a balance of payments deficit. Since exchange rates are fixed, *government intervention* is required: the government will purchase domestic currency and sell foreign currency, which will drop the money supply and therefore shift the LM' curve to its original position (which makes

the equilibrium go to E_2). Monetary policy has therefore no effect under these circumstances.



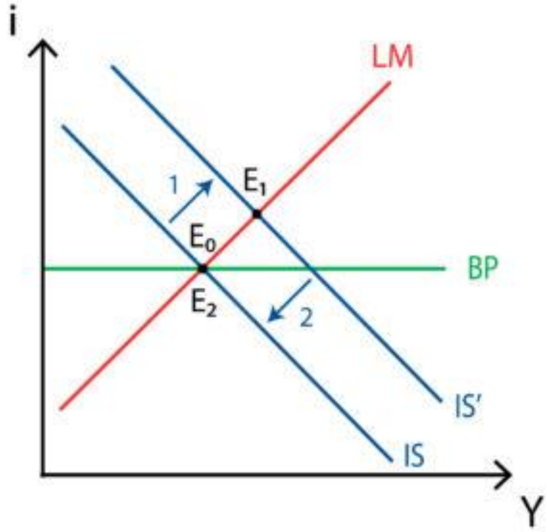
An expansionary fiscal policy will shift the IS curve to IS', moving the equilibrium form point E_0 to point E_1. Since the economy has now a balance of payments surplus, and because the exchange rate is fixed, government will intervene in the exact opposite way: they'll purchase foreign currency and sell domestic currency. This will increase the money supply, shifting the LM curve to the right. The final equilibrium is reached at point E_2 where, at the same interest rate, production has increased greatly: fiscal policy works perfectly under these circumstances.

Flexible exchange rate



An expansionary monetary policy will shift the LM curve to LM', which makes the equilibrium go from point E_0 to E_1. However,

since now exchange rates are flexible, we have a different situation: the balance of payments deficit will depreciate the domestic currency. This will increase net exports (since foreigners can now buy more of our products with the same amount of money), which will shift the IS curve to the right (to IS'). The final equilibrium is reached at point E_2 where, at the same interest rate, production has increased greatly: monetary policy works perfectly under these circumstances.

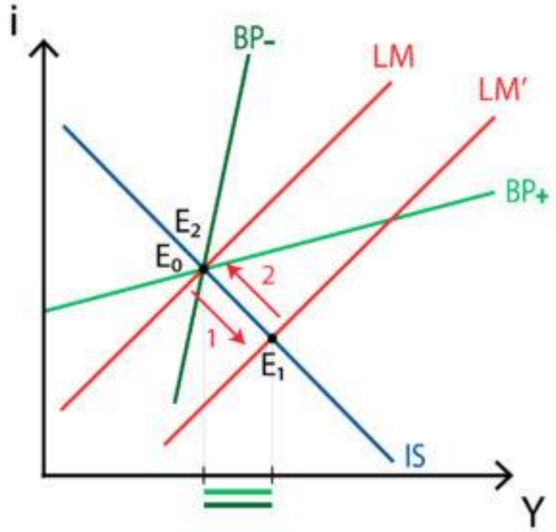


An expansionary fiscal policy will shift the IS curve to IS', moving the equilibrium from point E_0 to point E_1. The economy will therefore have a balance of payments surplus, which in this case of flexible exchange rate will appreciate the domestic currency. This will decrease net exports, since we are able to import more goods and services with less money, while foreigners will import less of our products because of our appreciated domestic currency. This drop in net exports will shift the IS' curve back to its original position. Since now the final equilibrium E_2 corresponds to the initial equilibrium, we know fiscal policy is no good in this case.

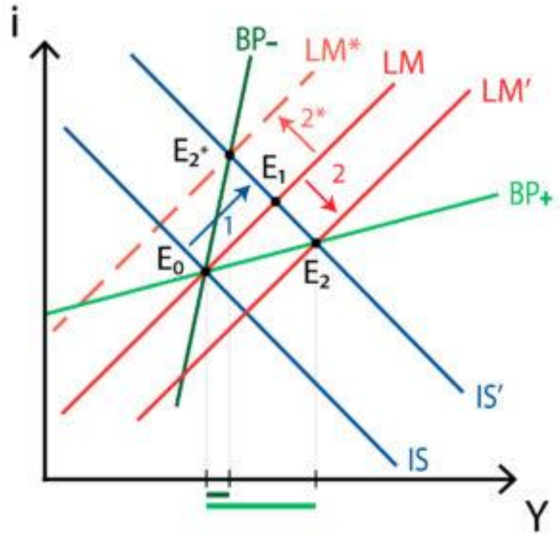
It is easy to see why Mundell devised what is known as the impossible trinity. In a few words, no economy can have the following three: perfect capital mobility, fixed exchange rates and an independent and efficient monetary policy. Under the perfect capital mobility assumption, and in order to have an efficient monetary policy, exchange rates must be flexible. Or have fixed exchange rates but assume that monetary policy won't be efficient.

3.3.6 Imperfect Capital Mobility

Fixed exchange rate



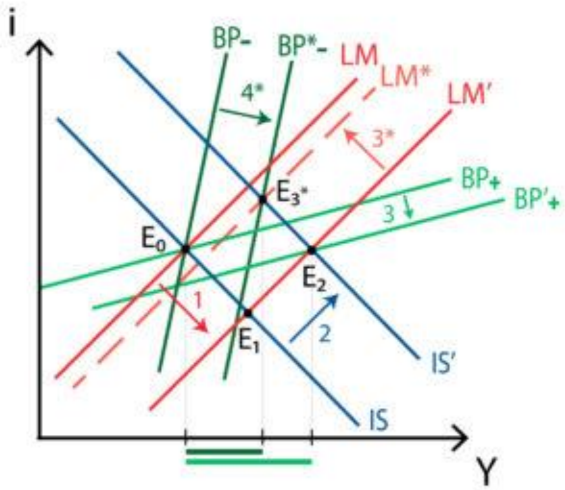
Here we have the exact same situation as before: an expansionary monetary policy will shift the LM curve to LM', which makes the equilibrium go from point E_0 to E_1. However, since we are below the BP curve, we know the economy has a balance of payments deficit. Since exchange rates are fixed, the government will purchase domestic currency and sell foreign currency, which will drop the money supply and therefore shift the LM' curve to its original position (which makes the equilibrium go to E_2). Monetary policy has again no effect, no matter how great or small capital mobility is.



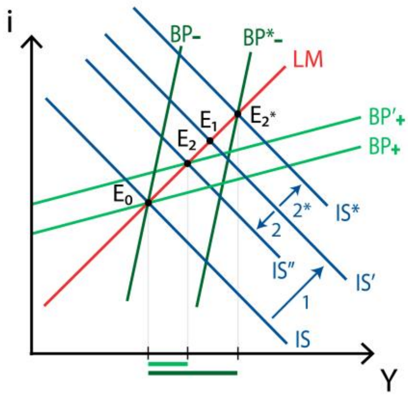
An expansionary fiscal policy will shift the IS curve to IS', moving the equilibrium from point E_0 to point E_1. Now, depending on capital mobility, we'll either have a balance of payments surplus (high capital mobility, BP+ curve) or a balance of payments deficit (small capital mobility, BP- curve). Since exchange rates are fixed,

government will need to intervene: its acquisitions and disposals of both domestic and foreign currency will shift the LM curve to either LM' or to LM* (you can review what happens above: a balance of payments surplus is the same scenario as in a fiscal policy with perfect capital mobility and fixed exchange rates, while the balance of payments deficit corresponds to the monetary policy scenario). Under these circumstances, fiscal policy is completely efficient. It's actually the more efficient the higher capital mobility is.

Flexible exchange rate



An expansionary monetary policy will shift the LM curve to LM', which makes the equilibrium go from point E_0 to E_1. However, since now exchange rates are flexible, the balance of payments deficit will depreciate the domestic currency. This will increase net exports, shifting the IS curve to IS'. Also, since domestic assets are less expensive, the BP curve will shift to the right (to either BP'+ or BP'-). Therefore, with high capital mobility, final equilibrium will be at point E_2. Monetary policy works well under these assumptions. It's actually the more efficient the higher capital mobility is.



An expansionary fiscal policy will shift the IS curve to IS', moving the equilibrium from point E_0 to point E_1. Now, depending on capital mobility, we'll either have a balance of payments surplus (high capital mobility, BP+ curve) or a balance of payments deficit (small capital mobility, BP- curve). In the case of a balance of payments surplus, and considering flexible exchange rates, there will be an appreciation of the domestic currency. This will decrease net exports, which will shift the IS' curve to the left. Also, since domestic assets are more expensive, the BP+ curve will shift to the left. The final equilibrium will therefore be at point E_2. If there is a balance of payments deficit (the case for the BP- curve), the result will be the same one as in the monetary policy case (being E_2* the final equilibrium). In this scenario, fiscal policy will be more efficient the smaller capital mobility is.

3.4 CONCLUSION

The Mundell-Fleming model is a very useful tool when dealing with the analysis of open economies. A great deal of textbooks and papers argue for or against each of these models. However, there's no denying the world is moving towards liberalizing *international trade* and capital movements (mostly through WTO's agreements), which would make us lean towards Mundell's view. To sum up, under perfect capital mobility, monetary policy will only work with flexible exchange rates, while fiscal policy will only work with fixed exchange rates.

3.5 SELF-ASSESSMENT QUESTIONS

Part – A

6. Who is formulated the IS-LM model?
7. Expand the term IS-LM-BP.

Part – B

7. Write a note on Fleming's imperfect mobility model.
8. What is meant by flexible exchange rate?

Part – C

3. Discuss the Mundell-Fleming Model for IS-LM-BP.

UNIT-IV: THEORIES OF CONSUMPTION SPENDING

NOTES

Contents

4.1 INTRODUCTION

The consumption function, or Keynesian consumption function, is an economic formula that represents the functional relationship between total consumption and gross national income. It was introduced by British economist John Maynard Keynes, who argued the function could be used to track and predict total aggregate consumption expenditures.

Every time you purchase food at the drive-thru or pull out your debit or credit card to buy something, you are adding to consumption. Consumption is one of the bigger concepts in economics and is extremely important because it helps determine the growth and success of the economy. Businesses can open up and offer all kinds of great products, but if we don't purchase or consume their products, they won't stay in business for very long! If they don't stay in business, many of us won't have jobs or the income to buy goods and services.

Consumption can be defined in different ways, but it is best described as the final purchase of goods and services by individuals. The purchase of a new pair of shoes, a hamburger at the fast food restaurant or services, like getting your house cleaned, are all examples of consumption. It is also often referred to as consumer spending. Many

topics in economics explore how the income of families and individuals affects consumption and spending habits.

4.2 CONSUMPTION FUNCTION WORKS

The classic consumption function suggests consumer spending is wholly determined by income and the changes in income. If true, aggregate savings should increase proportionally as gross domestic product (GDP) grows over time. The idea is to create a mathematical relationship between disposable income and consumer spending, but only on aggregate levels.

The stability of the consumption function, based in part on Keynes' Psychological Law of Consumption, especially when contrasted with the volatility of investment, is a cornerstone of Keynesian macroeconomic theory. Most post-Keynesians admit the consumption function is not stable in the long run since consumption patterns change as income rises.

4.3 CALCULATING THE CONSUMPTION FUNCTION

The consumption function is represented as:

$$C = A + MD$$

Where: C = Consumer spending; A = Autonomous consumption; M = Marginal propensity to consume; D = Real disposable income.

4.4 THEORIES OF CONSUMPTION FUNCTION

There are many different theories on income and consumption behavior, and we will focus on some of the more mainstream concepts in consumption theory. One of the most popular and well-known theories is the Keynesian theory, offered by economist John Maynard Keynes. This theory states that current real income is the most important determinant of consumption in the short run. Simply said, you spend according to how much income you have coming in. This is the basis for most consumption theory. The term 'real' that is used in describing income refers to how your income is affected by inflation, or the natural rise in prices of goods and services. So to elaborate, if your income went up five percent in a year, but the price of goods or inflation went up five percent also, your real income remained flat. You can't really buy or consume any more goods than you could before.

4.4.1 The Absolute Income Hypothesis:

"…men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income".

Whether or not this is the original statement of the absolute income hypothesis, there is no doubt that this statement by Keynes stimulated much empirical research to test the hypothesis and to derive the consumption function. Many of these studies were carried out on time series, the general practice being to co-relate aggregate consumption expenditures over time with aggregate disposable income and various other variables.

The basic tenet of the absolute income theory is that the individual consumer determines what fraction of his current income he will devote to consumption on the basis of the absolute level of that income. Other things being equal, a rise in his absolute income will lead to a decrease in the fraction of that Income devoted to consumption. The first statement of this hypothesis was, perhaps, made by Keynes in the General Theory. Its subsequent developments are primarily associated with James Tobin and Arthur Smithies'— also called Drift Hypothesis as shown in the Fig. 3.1.

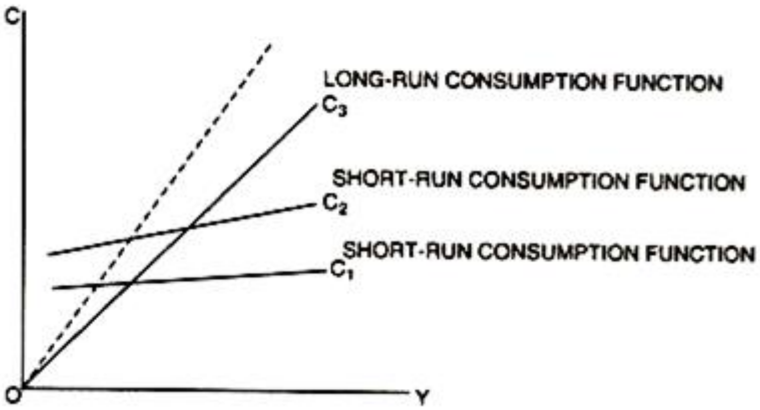


Fig. 13.1

According to absolute income theory (AIT) the level of consumption expenditures depends on the absolute level of income, with APC declining as the level of income increases. Since the level of national income grows over time, the AIT concludes that the APC should diminish continuously. As such, according to AIT, the consumption-income relationship is non-proportional, as shown in the Fig. 3.1.

In the Fig. 13.1, as income increases over time, consumption follows the non-proportional function shown by C_1, but over the long-run the statistical evidence suggests that consumption function follows the path of the proportional function as shown by C_3. The advocates of AIT argue that there are upward shifts in the non-proportional

consumption function as shown by the shifts from C_1 to C_2 caused by change in factors other than income like consumers spending a larger portion of any given level of income then is historically normal, due to shifts in population from rural to urban areas, the age and composition of population, households spending more at every level of income in order to purchase new consumer goods regarded as essentials.

The AIT argues that these factors have caused the short-run, non-proportional consumption function to shift upward in a manner that creates an illusion of proportionality, thereby obscuring the basic non-proportional relationship. Brown has explained that the relationship between income and consumption is non-proportional and rests upon habit persistence among consumers. According to Brown, "The full reaction of consumers to change in income does not occur immediately but instead takes place gradually".

Consumers react rather slowly to changes in income. Brown felt that the decline of the effect of past habits is continuous over time, rather than discontinuous as suggested by Modigliani-Duesenberry hypothesis. Factors as mentioned above, according to AIT, have caused the consumption function to shift upward by roughly the amount necessary to produce a proportional relationship between C and Y over long-run and thus to prevent the appearance of what would otherwise be the non-proportional relationship that would be expected on the basis of the income factor alone.

In the years following the appearance of the General Theory, economists generally accepted the absolute income theory as basically correct, but the widespread acceptance enjoyed by this theory was short-lived. Doubts about the adequacy of the absolute income hypothesis arose because of its apparent inability to reconcile budget data on saving with observed long-run trends. Estimates of national saving and other aggregate derived by Kuznets and later by Goldsmith indicated that the aggregate saving ratio had remained virtually constant since the 1870s. Yet budget studies showed that the saving ratio rose substantially with income level.

Since incomes have risen tremendously since the 1870s by almost any standard, this would suggest according to the absolute income hypothesis, that the aggregate saving ratio should have moved up noticeably over time. Data made available by Kuznets showed that during the period 1869-1929, the ratio of consumption to national income had remained constant while income had quadrupled.

4.4.2 Relative Income Hypothesis:

An answer to this apparent inconsistency is provided by the relative income hypothesis, which seems to have been first propounded by Dorothy Brady and Rose Friedman. Its underlying assumption is that saving rate depends not on the level of income but on the relative position of the individual on the income scale. As such relative-income hypothesis implies the assumption that spending is related to a family's relative position in the income distribution of approximately similar families.

Much additional theoretical and empirical support of this hypothesis was provided by the work of Modigliani and of James S. Duesenberry, carried out at about the same time. The relative income hypothesis is conceived by Duesenberry and helps to explain the differences found between consumption function derived from data of families classified by groups and those derived from overall totals (time series).

Duesenberry contended that, at any given moment in time, consumption is not particularly sensitive to current income. People spend in a manner consistent with their relative income position. With incomes rising or falling over the course of years, their spending patterns change if their relative position changes. James Tobin shows that other factors could cause the effects that Duesenberry explained by means of relative incomes.

Duesenberry develops the proposition that the ratio of income consumed by an individual does not depend on his absolute income, instead it depends upon his relative income—upon this percentile position in the total income distribution. During any given period, a person will consume smaller percentage of his income as his absolute income increases if his percentile position in income distribution improves and vice versa.

Thus, the relative income theory argues that the fraction of a family's income spent on consumption depends on the level of its income relative to the income of neighbouring family's and not on the absolute level of the family's income. If a family's income increases but its relative position on the income scale remains unchanged because incomes of other families have also risen at the same rate, its division of income between C and S will remain unchanged. According to the relative income theory, each family, in deciding on the fraction of its income to be spent, is uninfluenced by the fact that it is twice as well

off in absolute terms and is influenced only by the fact that it is no better off at all in relative terms

According to RIT, the level of consumption expenditures is not determined by the absolute level of income but by the relative level of income, with the APC declining as relative income increases. More specifically, the RIT argues that the level of consumption spending is determined by the household's level of current income relative to the highest level of income previously earned.

Symbolically, it is shown:

$$C = a\,Y + b\,[Y_h/Y]Y$$

where C represents the current level of consumption expenditures, Y, the current level of income, Y_h, the highest level of income previously earned, and a and b, represent numerical constants which relate income to consumption. From the above equation, we find that when the households experience a temporary and short-run increase in current income above its previous peak level of income, it increases its consumption expenditures by an amount which is less than proportional to the increase in current income.

Consequently, when current income rises relative to peak income, the APC declines and the increase in total consumption expenditures is not proportional to the increase in total income. Again, when a household experiences current and peak income growing by the same percentage amount, it increases its consumption expenditures by an amount which is proportional to the increase in current income.

Consequently, the APC remains constant and the increase in total consumption expenditure is proportional to the increase in total income. Thus, according to the RIT, changes in current consumption are not proportional to the changes in current income only when current income increases relative to previous peak income.

If current and peak income grow together, changes in consumption are always proportional to the changes in income. However, it must be noted that RIT works for decreases as well as increases in the level of current income. The RIT is fundamentally different from AIT. The RIT explains away the short-run consumption function as a result of temporary deviations in current income, while the AIT explains away the long-run consumption function as the result of factors other than income on consumption.

4.4.3 Duesenberry Hypothesis:

On a theoretical level, Duesenberry supplied psychological support for this hypothesis, noting that a .strong tendency in our social set up for people to emulate their neighbours and, at the same time, to

strive constantly towards a higher standard of living. Hence, once a new, higher standard of living is obtained, as at a cyclical peak, people are reluctant to return to a lower level when income goes down. In other words, people seek to maintain at least the highest standard of living attained in the past.

On this basis, he inferred that from an aggregate time-series point of view the relative income hypothesis could be transformed into one expressing the saving rate as a function of the ratio of current income to the highest level previously reached. However, Davis suggests a variable to this approach of Duesenberry—that previous peak consumption be substituted for previous peak income. The basis of this is that people get used to a certain standard of consumption, rather than to a certain level of income, so that it is past spending that influences current consumption rather than past income.

Prof. Duesenberry has made two significant observations on the factors affecting consumption function which go by the name of 'Duesenberry Hypothesis'. According to him, consumption expenditure of an individual is determined not only by his current income but also by the standard of living enjoyed by him in the past. As income falls from the previous level, expenditure on consumption also does fall but not to the full decrement in income because people fail to adjust their expenditure according to the new circumstances.

For example, a lecturer who has been granted a temporary commission in the army on account of emergency, and who has become accustomed to enjoy a higher standard of living, will not be able to reduce his expenditure on consumption goods when he is demobilised. Duesenberry refers to the tendency for the new and higher level of consumption purchasing associated with a previously exceeded level of income as the 'ratchet effect'—it explains the tendency for an economy's consumption purchasing not to fall back to earlier levels when its income does.

The diagram shows the essence of Duesenberry's long-run and short-run consumption function:

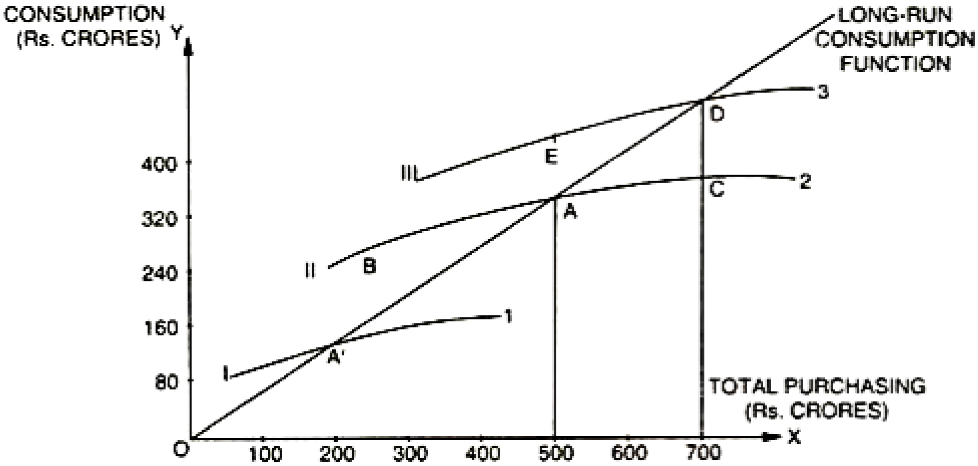


Fig. 13.2

The figure shows an economy initially in long-run equilibrium at the combination of total purchasing and consumption at point A. To establish Duesenberry type of relationship between short- run and long-run consumption functions. Let us consider the effects of a decline in the level of total purchasing from initial Rs. 500 crore to Rs. 200 crore. The consumption does not fall to point A', the consumption expenditures will come down to Rs. 240 crore at point B.

On the other hand, an increase in the level of economy's purchasing from Rs. 500 crore to Rs. 700 crore will initially involve only slight increase in the level of consumption purchasing as the economy moves out short-run consumption function 2 to the combination of income and consumption purchasing at point C. The move occurs along short-run function 2 in the short-run but in the long-run consumption purchasing in the economy must finally reach at the point D.

This level represents the total amount of consumption purchasing that will occur when the economy's income is Rs. 700 crore and each income group in the society consumes its traditional proportion of income to mitigate its feeling of social inferiority. Point D is another point on the economy's long-run consumption function. But what will happen if the economy's income were to fall to Rs. 500 crore again? Will consumption fall along point A? No, the economy will move down short-run consumption function III to the level of consumption purchasing shown by point E; as the economy will resist cutting its purchases below that it enjoyed when the previous high level of Rs. 700 crore was attained (ratchet effect).

The theory of ratchet effect maintains that high consumption standards and high investment levels previously attained are not easily reversed. The ratchet keeps the economy from slipping back and loosing all the income gains attained during the preceding expansion. Further, Duesenberry talks of the 'Demonstration Effect' according to which the consumption standards of low income groups are greatly affected by the consumption standards of high income groups.

The moment low income groups, start consuming goods used by high income groups, the latter always try to avoid consumption of such commodities and search for still better commodities. Such tendencies go to increase consumption and weaken the propensity to save.

Assumptions:

Duesenberry's theory', known as the relative income hypothesis is based on a reversal of two assumptions previously thought to be fundamental to aggregate demand theory.

He states that:

I. The consumption behaviour of individuals is interdependent (rather than independent) and
II. Consumption relations are irreversible over time Duesenberry uses statement
III. Above to develop the thesis that the percentage of income consumed by any individual does not depend on his absolute income but rather on his 'percentile position in the income distribution,' or his relative income.

The relative income hypothesis, thus attempts to explain the apparent paradox between the cross-section and time series evidence. The second key assumption of relative income hypothesis is used to explain cyclical fluctuations in the aggregate C/Y ratio. It may be understood that a rise in disposable income leaves the C/Y ratio unchanged (although some consumers find their relative income position changing over time, these changes will balance in the aggregate, so that the aggregate C/Y ratio will remain unchanged).

However, a fall in disposable income will raise the C/Y ratio. If consumer standards are irreversible, a decrease in income will have a smaller than proportional effect on consumption. Individuals will continue to base their consumption patterns partially on higher previous levels of income, which can be represented by peak previous income. The fact that consumption does not fall proportionally with income during recessions accounts for the cyclical behaviour of the C/Y ratio.

Duesenberry hypothesis establishes an important link between the theory of economic and the theory of business cycles. The fact that the long-run consumption function is likely to be linear throws serious doubts on the theory of secular stagnation which is based on the fact that saving gap increase more than proportionately to an increase in income. This may be true in the shot-run but not in the long-run. Again, this hypothesis enables us to understand why some of the families decide to put to work even their non-earning members like women and children.

It shows that consumption is not only a function of income but income can also be a function of consumption. Since families want to maintain their high consumption standard, they must put even their non-earning members to work so that the income of the family could go up and consumption standards could be maintained, despite, a fall in incomes on account of depression.

Duesenberry's theory, no doubt, represents significant advances over previous consumption functions. However, there are limitations in this type of approach also and there are occasional circumstances for which the theory gives somewhat less than satisfactory results. First, this hypothesis states that consumption and income always change in the same direction; yet mild declines in income often occur concomitantly with increases in consumption.

Second, the function states that increases in consumption are proportional to any size increase in income, no matter how large or small. It seems reasonable to suggest that unexpectedly large increases in income result, at least initially, in less than proportional increases in consumption. Third, one might argue that consumer behaviour is slowly reversible over time instead of being truly irreversible. Then previous peak income would have less effect on current consumption the greater the elapsed time from the last peak. However, recent advances in the theory of consumption function have been able to settle these difficulties.

4.4.4. The Permanent Income Hypothesis:

It is a theory that attempts to explain away apparent inconsistencies of empirical data on the relationship of saving to income. Data for a single year show that, as income rises, savings account for an increasing share of income, while data for a long period of years show that, even though total income rises over the years, total savings account for a fairly stable share of total income. Milton Friedman states that this does not occur because of changes in consumption habits at every income level but because a study of

measured income and consumption involves inaccurate concepts of what these habits really are.

The best known exposition of the PIH is developed by Professor Milton Friedman—formerly of the University, of Chicago. He says permanent income is roughly akin to lifetime income, based on the real and financial wealth at the disposal of the individual plus the value of one's human capital in the form of inherent and acquired skills and training. The average expected return on the sum of all such wealth at the disposition of an individual would be his permanent income. But measured income is different from permanent income according to Friedman.

Over a lifetime measured income ought to coincide with permanent income, but in any one year measured income as a result to cyclical fluctuations and because of other random changes may depart from permanent income. But the best way to measure permanent income, according to this hypothesis, is through a weighted average of past and present measured income, with less weight being given to measured income that lies farther in the past. In any year the difference between the measured income and permanent income is transitory income. It may be positive or negative, but over an individual's life time it is essentially zero.

This theory like the relative income theory, holds that the basic relationship between consumption and income is proportional, but the relationship here is between permanent consumption and permanent income. Thus, quite a different approach to the role of income in the theory of consumer spending has been developed by Milton Friedman. The main point of departure is the rejection of the common concept of current income and its replacement by what he calls permanent income.

A family's permanent income in any one year is in no sense indicated by its current income for that year but is determined by the expected income to be received over a long period of time, stretching out over a number of future years. According to Friedman, "Permanent income is to be interpreted as the mean income regarded as permanent by the consumer unit in question, which in turn depends on its farsightedness". Given this meaning of permanent income, a family's measured or observed or actual income in any particular year may be larger or smaller than its permanent income.

Friedman divides the family's measured income in the year into permanent income and transitory income. The measured (actual) income is larger or smaller than its permanent income, depending on

the sum of positive and negative transitory income components. For example, if a worker gets special bonus in a year and does not expect to get it again, this income element is positive transitory income and it has the effect of raising his actual (measured) income above his permanent income. On the other hand, if he suffers an unexpected loss (say, on account of plant shutdown); this income element (loss) is regarded as negative transitory income and it has the effect of reducing his actual (measured) income below his permanent income.

These unexpected additions and subtractions from family's income are expected to cannel out over a longer period relevant to permanent income but they are present in any shorter period. Similarly, Friedman divides measured (actual) consumption into permanent and transitory components. A good purchased because of an attractive reduction in sale price or a normal purchase postponed due to the unavailability of the goods are examples of positive and negative transitory consumption. A family's actual (measured) consumption in any particular period may be larger or smaller than its permanent consumption.

The argument can be summarized as follows:

$$Y_m = Y_p + Y_t$$
$$C_m = C_p + C_t$$

where m, p and t represent measured, permanent and transitory components. Further, the consumption function is held to be proportional—Cp = kY_p, where k is the factor of proportionality and depends on interest rate (i), the ratio of non-human to total wealth (w) and a variable u—which mainly reflects age and tastes—thus, $k = f(i, w, u)$. These factors, and hence k, are independent of the level of permanent income.

Thus, we find, that according to PIT, the level of consumption is not determined by absolute or relative income level but by the level of permanent income with the APC out of permanent income, remaining constant as permanent income increases and the APC out of current income declining as current income increases above the permanent income in the short-run. Although PIT appears to be similar to RIT, there is significant difference. The PIT argues that, permanent consumption is proportional to permanent income—while the RIT argues that in the long-run, current consumption is proportional to current income. The measure of income determined as an average of current, past and future incomes is called permanent income.

The essential idea of the PIH is shown with the help of a single diagram. In the diagram Y_p represents permanent income,

C_p permanent consumption and Y_m measured or current income. The difference between Y_p and Y_m is transitory income. The diagram shows the path over time of these three variables. Starting at the point in time t_0, measured or current income expands. As it rises from its starting level to a peak at a time t_2 the ratio between permanent consumption (C_p) and measured income will decline.

This is the ratio that may be observed from current data. As measured income begins to decline from this peak, the measured (or observed) propensity to consume will increase. This will continue until measured income falls to touch at the bottom at a time period f_3, following which it will start to rise once again. As such, it is the assumption that consumption expenditures are tied in proportional fashion to permanent income and, thus, do not fluctuate measured (or observed) income fluctuates.

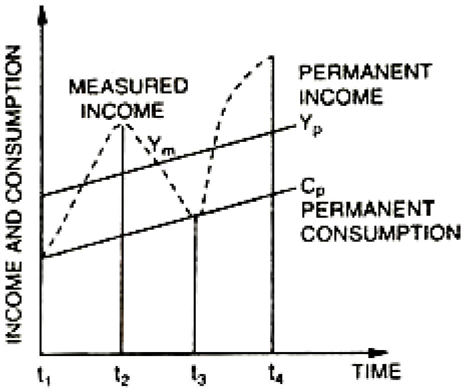


Fig. 13.3. Permanent income hypothesis

PIH; we find, uses the concept of permanent income and rejects current income as the basis for consumption expenditures. However, the question is how far back into past income and forward into future income does permanent income reach? The answer is different for every individual and household. The longer is the experience span required, the farther back in time the past income component must go and the greater is the degree of certainty, the farther forward in time the future income component most go. But the required experience span and the degree of certainty in expectations are influenced by a host of socio-economic factors like health, education, job security, accumulated wealth and so on.

Thus, the time horizon for determining permanent income is usually greater than one year but less than the life span of the household or individual. Again, the transitory consumption is not related to transitory income in the PIH. When a household has a transitory decline in income— its consumption expenditure do not

decline too. Similarly, when a household has a transitory increase in income—its consumption expenditures do not increase. According to the advocates of PIH, unexpected changes in income do not produce changes in consumption, instead, they produce equivalent changes in sales.

In other words, the MPC out of transitory or windfall income is Zero and the MPS is unity. It is, therefore, clear that if current consumption is unrelated to transitory income, the consumption-income relationship is non-proportional in the short-run. Since the PIH argues that proper consumption function relates permanent consumption to permanent income, it concludes that the long-run consumption-income relationship is proportional. Changes in permanent income give rise to proportional changes in permanent consumption.

Friedman showed on the basis of empirical data that there existed proportional relationship between consumption and permanent income in the long-run. But at the same time a non-proportional relation was observed between consumption and measured income in the short-run. In Fig. 13.3(a), the long-run relationship is indicated by $C = 0.88\ Y_p$ (as observed by Friedman). Suppose that the income level is $Y = Y_p$ in an initial year, i.e., aggregate measured income and permanent income are equal. If in the next year measured income rises to Y_2 due to positive transitory income.

The consumption will take place at point K on the short term consumption function. But consumption out of transitory income according to this hypothesis is always zero. Whatever increase is in consumption from H to M is due to rise in permanent income. This leads to a drop in APC of the economy. The cyclical decline in income takes place with a fall in transitory income. With transitory income being negative would show a rise in APC. The measured income, suppose, falls to Y_1 from Y_{p1}. A fall in consumption due to decline in transitory income is zero. Therefore, consumption takes place at E and APC rises from what it is at H.

Further, as the PIH argues that permanent consumption and transitory income are unrelated— it concludes that the short-run consumption-income relationship is non-proportional.

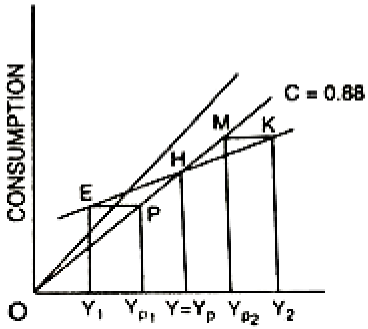


Fig. 13.3(*a*)

Limitations:

It spite of these arguments the permanent income hypothesis is by no means established. Critics argue that it puts too great a stress on the expectations and long-range planning of consumer units, while in reality consumer units change their consumption behaviour frequently. Further, on the theoretical plane, question is raised regarding the validity of the two central tenets of the theory, namely, the independence of k of the level of income, and the lack of correlation between transitory consumption and transitory income.

Similarly, the assumption of a zero marginal propensity to consume out of transitory income is questioned, partly on the basis that low income families are under strong pressures to spend any expected income to meet current needs, and partly because of the very unequal distribution of wealth which mitigates against dissaving by low-income families to maintain consumption in the face of temporary declines in income.

However, whether or not the permanent income hypothesis turns out to be valid, there is little doubt that, to quote Tobin, “This is one of those rare contributions of which it can be said that research and thought in its field will not be the same henceforth”. Most of all, it has led to under spread recognition of the possible effects of variability in income on consumption patterns and has provided a theoretical basis for measuring these effects as a springboard for a more realistic theory of consumer behaviour.

Praising the work of Friedman, Prof. Evans has stated: “Without making a final judgment on whether the strict terms of permanent income hypothesis all hold, it can be fairly said that the weight of the evidence supports this theory. Even if parts of the hypothesis are ultimately shown to be correct. Friedman’s formulation has reshaped and redirected much of the research on consumption function. It is

indeed unusual to discuss the consumption function today without referring to Friedman's terms of reference.

4.4.5. Life Cycle Hypothesis:

Life cycle hypothesis is another important attempt to explain the difference between cyclical short-run consumption function and secular long-run consumption function. It has been developed by Franco Modigliani, Albert Ando and later by Brumberg—called the life cycle hypothesis or MBA approach. It is said that life cycle hypothesis is similar to PIH developed by Friedman.

Although, the two approaches are similar in principal yet they are different in certain respects. Friedman's version of PIH has gained more attention in recent years. In the Friedman's approach a consumer unit is assumed to determine its standard of living on the basis of expected returns from its resources over its life time. These returns are expected to be constant from year to year, though in actual practice some fluctuation would result over time with changes in the anticipated amount of capital resources.

The expenditures of the consumer units are set as a constant proportion (k) of this permanent level of income. The value of (k) varying for consumer units of different types and of different tastes. Actual consumption and actual income deviate from these planned, or permanent levels to the extent that transitory factors, enter in. The Modigliani—Brumberg—Ando (MBA) approach is essentially a permanent wealth hypothesis rather than a 'permanent income hypothesis' though in practice the two approaches converge.

In its most recent formulation, the household or consumer unit is assumed to determine "the amount available for consumption over life, which is the sum of the households' net worth at the beginning of the period—plus the present value of its non-property income—minus present value of planned bequests."

Thus, the relationship is essentially the same as that derived by Friedman. In either formulation, the central tenet is the assumption that the proportion of permanent income saved by a consumer unit in a given period is independent of its income (or its resources) during that period and further more that transitory incomes may have no or little effect on current consumption.

The life cycle hypothesis states the income consumption relationship as:

$$C_1 = KV_t$$

where C_t is the current consumption by an individual, K is the factor of proportionality and V_t is the present value of the resources

NOTES

accruing to the individual over the rest of his life. The total resources available to the individual over his entire life span are the sum of individuals net worth at the end of the proceeding period plus his income during the current period from the non-property sources plus the total of the discounted values of the non-property incomes expected in the future time periods.

Assuming a proportionate relationship between the current non-property income and the discounted sum of expected future non-property income, an aggregate consumption function is expressed as:

$$C_t = aY_t^n + bA_{t-1}$$

where C_t is the current consumption, Y_t^n is the aggregate non-property income in period t, At_{t-1} is the aggregate net worth at the end of At_{t-1} (proceeding period) and a and b are proportionality constants.

This simplified life cycle hypothesis serves at least to remind us that savings and consumption pattern and involve more than blind psychological urges for thrift or unthinking and mechanical responses to changes in the level of current income. The life cycle consumption function that we have derived, differs from its simple Keynesian counterpart because in the life cycle consumption function, consumption is taken as a function of wealth and of age and not simple of current income.

It does not mean that the level of current income has no effect on current consumption under the life cycle hypothesis. It does have an effect because current income is one of the important constituents of total wealth. Again, life cycle function does not mean that people will automatically and systematically become thriftier as they become richer.

On the contrary, the life cycle hypothesis says that consumption spending is strictly proportional to total wealth so that if we were to compare two individuals of the same age, one of whom had twice the total wealth of the other, we would expect that his total standard of living would also be twice that of his poorer counterpart. Some of the most striking differences between the life cycle and simple Keynesian consumption function arise when their respective predictions of the response of budgeted consumption to these unanticipated changes in income and wealth are compared.

It must be admitted that even the life cycle hypothesis, in its simplified form as presented here, suffers from certain limitations. First of all, it involves a variety of variables that are difficult to measure, in

particular anticipated future income virtually unobservable. Secondly, the theory assumes an unreasonable degree of rationality and the power to see through future, which are not there. Again, it assumes that changes in current (after tax) labour income always generate changes, in the same direction, of expected future labour income. This makes the function difficult to use, specially in cases where the changes in current labour income are temporary.

The two major theories in this category—the PIH and Life Cycle Hypothesis (LCH) have in common the primary idea that the consumer plans his consumption not on the basis of income received currently, but on the basis of long-term or even life term income expectations. As such, the fundamental theoretical relationship between consumption and income is one of proportionality, although short-term (or cyclical) factors can cause departures from the average propensity to consume.

Both the life cycle hypothesis and the permanent income theory suggest that consumers adjust their consumption patterns to the total resources which they can draw on for spending over their life-times. These resources consist of both wealth and the present value of expected income. The life cycle hypothesis differs from the theory of Friedman, however in that the propensity to consume of an individual will vary with age as well as wealth.

The basic relationship in the hypothesis is one of proportionality between individual's life-time income as determined by total resources (material wealth and human capital), but the observed relationship between consumption and income at any time will depend on the age of the consumer. Since the individual consumer's current income is relatively low at the beginning and at the end of his or her life, the proportion of income consumed out of current/measured income will be short at these times.

4.5 CONCLUSION

In his or her middle years, income will be high and the propensity to consume will be lower. Over the consumer's life-time, however, consumption will be a fixed proportion of total income. The essential point of both theories is that long-term proportion of permanent income consumed is independent of consumer's income in a particular period. Transitory income change do not have any significant impact upon current consumption. Thus, short-term changes in the current/observed consumption—income ratio are the result of transitory shifts in income.

4.6 SELF-ASSESSMENT QUESTIONS

Part – A

8. Who was introduced by Consumption Function?
9. What is consumption function represented?
10. Who is the author of life cycle hypothesis?

Part – B

9. Explain the concept of Absolute Income Hypothesis.
10. Write a note on Relative Income Hypothesis.
11. What are the assumptions of Duesenberry Hypothesis?

Part – C

4. Explain the Consumption Theory of Permanent Income Hypothesis.

UNIT-V: THE RATIONAL EXPECTATIONS HYPOTHESIS

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5.1 INTRODUCTION:

In the 1930s when Keynes wrote his General Theory, unemployment was the major problem in the world. During the Second World War, inflation emerged as the main economic problem. In the post-war years till the late 1960s, unemployment again became a major economic issue. From the late 1960s to 1970s, a new phenomenon appeared in the form of both high unemployment and inflation, known as stagflation. This phenomenon of stagflation posed a serious challenge to economists and policy makers because the Keynesian theory was silent about it. Out of this crisis emerged a new macroeconomic theory which is called the Rational Expectations Hypothesis (Ratex).

5.2 RATIONAL EXPECTATIONS:

The idea of rational expectations was first put forth by Johy Muth in 1961 who borrowed the concept from engineering literature. His model dealt mainly with modelling price movements in markets. By assuming that economic agents optimise and use information efficiently when forming expectations, he was able to construct a theory of expectations in which consumers' and producers' responses to expected price changes depended on their responses to actual price changes. Muth pointed out that certain expectations are rational in the sense that expectations and events differ only by a random forecast error.

Muth's notion of rational expectations related to microeconomics. It did not convince many economists and lay dormant for ten years. It was in early 1970s that Robert Lucas, Thomas Sargent and Neil Wallace applied the idea to problems of macroeconomic policy.

5.2.1 Basic Propositions of the Rational Expectations Hypothesis:

The Ratex hypothesis holds that economic agents form expectations of the future values of economic variables like prices, incomes, etc. by using all the economic information available to them. This information includes the relationships governing economic variables, particularly monetary and fiscal policies of the government. Thus the rational expectationists assume that economic agents have full and accurate information about future economic events.

According to Muth, information should be considered like any other available resource which is scarce. Further, rational economic agents should use their knowledge of the structure of the economic system in forming their expectations. Thus the Ratex hypothesis "presumes that individual economic agents use all available and relevant information in forming expectations and that they process this information in an intelligent fashion. It is important to recognise that this does not imply that consumers or firms have "perfect foresight" or that their expectations are always "correct".

What it does suggest is that agents reflect upon past errors and, if necessary, revise their expectational behaviour so as to eliminate regularities in these errors. Indeed the hypothesis suggests that agents succeed in eliminating regularities involving expectational errors, so that the errors will on the average be unrelated to available information."

The Ratex hypothesis has been applied to economic (monetary, fiscal and income) policies. The rational expectationists have shown the short-run ineffectiveness of stabilisation policies. According to them, no one knows much about what happens to the economy when economic (monetary or fiscal) policy is changed. Specifically, it means that macroeconomic policies designed to control recession by cutting taxes, increasing government spending, increasing the money supply or the budget deficit may be curbed.

They argue that the public has learnt from the past experience that the government will follow such a policy. Therefore, the government cannot fool the people by adopting its effects and mere

signs of such a policy in the economy create expectations of countercyclical action on the part of the public. Thus, according to the Ratex hypothesis, people form expectations about government monetary and fiscal policies and then refer to them in making economic decisions.

As a result, by the time signs of government policies appear, the public has already acted upon them, thereby offsetting their effects. In other words, the Ratex hypothesis holds that the only policy moves that cause changes in people's economic behaviour are those that are not expected, the surprise moves by the government. Once the public acquires knowledge about a policy and expects it, it cannot change people's economic behaviour. We discuss some of the policy changes in the light of the Ratex hypothesis below.

5.2.2 Rational Expectations and the Phillips Curve:

In the Friedman-Phelps acceleration hypothesis of the Phillips curve, there is a short-run trade-off between unemployment and inflation but no long-run trade-off exists. The reason is that inflationary expectations are based on past behaviour of inflation which cannot be predicted accurately.

Therefore, there is always an observed error So that the expected rate of inflation always lags behind the actual rate. But the expected rate of inflation is revised in accordance with the first period's experience of inflation by adding on some proportion of the observed error in the previous period so that the expected rate of inflation adjusts toward the actual rate.

Economists belonging to the rational expectations school have denied the possibility of any trade-off between inflation and unemployment even during the long run. According to them, the assumption implicit in Friedman's version that price expectations are formed mainly on the basis of the experience of past inflation is unrealistic.

When people base their price expectations on this assumption, they are irrational. If they think like this during a period of rising prices, they will find that they were wrong. But rational people will not commit this mistake. Rather, they will use all available information to forecast future inflation more accurately.

The rational expectations idea is explained diagrammatically in Figure 1 in relation to the Phillips curve. Suppose the unemployment rate is 3 per cent in the economy and the inflation rate is 2 per cent. We start at point A on the SPC_1 curve.

In order to reduce unemployment, the government increases the rate of money supply so as to stimulate the economy. Prices start rising. According to the Ratex hypothesis, firms have better information about prices in their own industry than about the general level of prices.

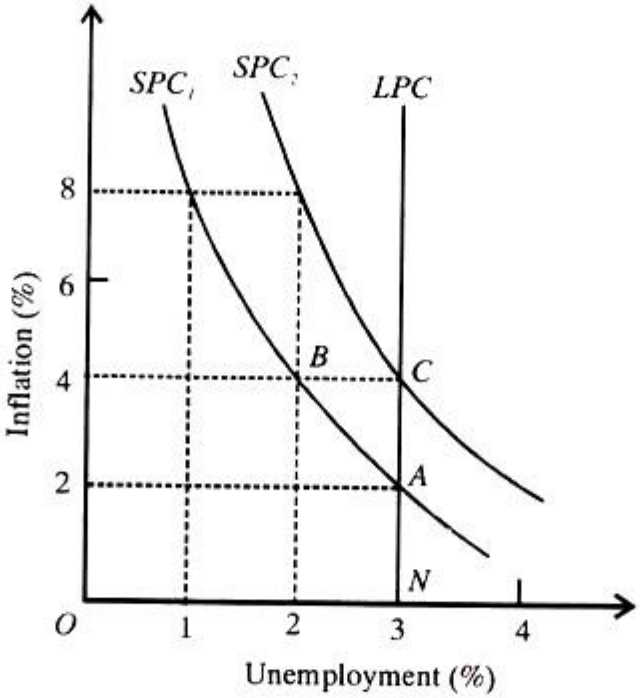


Fig. 1

They mistakenly think that the increase in prices is due to the increase in the demand for their products. As a result, they employ more workers in order to increase output. In this way, they reduce unemployment. The workers also mistake the rise in prices as related to their own industry. But wages rise as the demand for labour increases and workers think that the increase in money wages is an increase in real wages.

Thus the economy moves upward on the short-run Phillips curve SPC, from point A to B. But soon workers and firms find that the increase in prices and wages is prevalent in most industries. Firms find that their costs have increased. Workers realise that their real wages have fallen due to the rise in the inflation rate to 4 per cent and they press for increase in wages.

Thus the economy finds itself at the higher inflation rate due to government's monetary policy. As a result, it moves from point B to point C on the SPC_2 curve where the unemployment rate is 3 per cent which is the same before the government adopted an expansionary monetary policy. When the government again tries to reduce

unemployment by again increasing the money supply, it cannot fool workers and firms who will now watch the movements of prices and costs in the economy. If firms expect higher costs with higher prices for their products, they are not likely to increase their production, as happened in the case of the SPC, curve.

So far as workers are concerned, labour unions will demand higher wages to keep pace with prices moving up in the economy. When the government continues an expansionary monetary (or fiscal) policy, firms and workers get accustomed to it.

They build their experience into their expectations. So when the government again adopts such a policy, firms raise prices of their products to nullify the expected inflation so that there is no effect on production and employment.

Similarly, workers demand higher wages in expectation of inflation and firms do not offer more jobs. In other words, firms and workers build expectations into their price policies and wage agreements so that there is no possibility for the actual rate of unemployment to differ from the natural rate, N, even during the short run.

5.2.3 Policy Implications:

The Ratex hypothesis assumes that people have all the relevant information of the economic variables. Any discrepancy between the actual rate of inflation and the expected rate is only in the nature of a random error. When people act rationally, they know that past increases in prices and the rate of change in prices have invariably been accompanied by equal proportional changes in the quantity of money.

When people act on this knowledge, it leads to the conclusion that there is no trade-off between inflation and unemployment even in the short-run. It implies that monetary (or fiscal) policy is unable to change the difference between the actual and natural rate of unemployment. This means that the economy can only be to the left or right of point N of the long-run Phillips curve IPC (in Figure 1) in a random manner. Thus the implication is that stabilisation policy is ineffective and should be abandoned.

5.2.4 Criticisms:

The Ratex hypothesis has been criticised by economists on the following grounds:

1. Unrealistic Assumption:

The assumption of rational expectations is unrealistic. The critics argue that large firms may be able to forecast accurately, but a small firm or the average worker will not be able to do so.

2. Costly Information:

It costs much to collect, distill and disseminate information. So the market for information is not perfect. Therefore, the majority of economic agents cannot act on the basis of rational expectations.

3. Different Information's:

The critics also point out that the information available to the government differs from that available to firms and workers. Consequently, expectations of the latter about the expected rate of inflation need not necessarily be diverse from the actual rate only by the random error. But the government can accurately forecast about the difference between the expected inflation rate and actual rate on the basis of information available with it. Even if both individuals and government have equal access to information, there is no guarantee that their expectations will be rational.

4. Prices and Wages not Flexible:

Critics point out that prices and wages are not flexible. Economists like Philips, Taylor and Fischer have shown that if wages and prices are rigid, monetary or fiscal policy becomes effective in the short-run. The rigidity of wage rates implies that they adjust to market forces relatively slowly because wage contacts are binding for two or three years at a time. Similarly, the expected price level at the beginning of the period is expected to hold till the end of the period. Thus even if expectations are rational, monetary or fiscal policy can influence production and unemployment in the short-run.

5. Expectations Adaptive:

Gordon rejects the logic of the Ratex hypothesis entirely. He assigns two reasons for this: first, individuals do not know enough about the structure of the economy to estimate the market clearing price level and stick with adaptive expectations; and second, if individuals gradually learn about the structure of economic system by a least-squares learning method, rational expectations closely approximate to adaptive expectations.

6. Government not Impotent:

It is generally said that according to the Ratex hypothesis, the government is impotent in the economic sphere. But the Ratex economists do not claim this. Rather, they believe that the government has a tremendous influence on economic policies.

5.3 SELF-ASSESSMENT QUESTIONS

Part – A

11. Whose idea is the Rational Expectation?
12. Expand RATEX.
13. Who is the author of life cycle hypothesis?

Part – B

12. What are the basic propositions of the Rational Expectation hypothesis?
13. What are the policy implications of RATEX?

Part – C

5. Explain the Rational Expectation and the Phillips Curve.

UNIT – VI: TRADE CYCLES

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6.1 MEANING OF TRADE CYCLE:

A trade cycle refers to fluctuations in economic activities specially in employment, output and income, prices, profits etc. It has been defined differently by different economists. According to Mitchell, "Business cycles are of fluctuations in the economic activities of organized communities. The adjective 'business' restricts the concept of fluctuations in activities which are systematically conducted on commercial basis.

The noun 'cycle' bars out fluctuations which do not occur with a measure of regularity". According to Keynes, "A trade cycle is composed of periods of good trade characterised by rising prices and low unemployment percentages altering with periods of bad trade characterised by falling prices and high unemployment percentages".

6.2 FEATURES OF A TRADE CYCLE:

1. A business cycle is synchronic. When cyclical fluctuations start in one sector it spreads to other sectors.
2. In a trade cycle, a period of prosperity is followed by a period of depression. Hence trade cycle is a wave like movement.
3. Business cycle is recurrent and rhythmic; prosperity is followed by depression and vice versa.
4. A trade cycle is cumulative and self-reinforcing. Each phase feeds on itself and creates further movement in the same direction.

5. A trade cycle is asymmetrical. The prosperity phase is slow and gradual and the phase of depression is rapid.
6. The business cycle is not periodical. Some trade cycles last for three or four years, while others last for six or eight or even more years.
7. The impact of a trade cycle is differential. It affects different industries in different ways.
8. A trade cycle is international in character. Through international trade, booms and depressions in one country are passed to other countries.

6.3 THEORIES OF TRADE CYCLE:

Many theories have been put forward from time to time to explain the phenomenon of trade cycles. These theories can be classified into non-monetary and monetary theories.

6.3.1 Non-Monetary Theories of Trade Cycle:

6.3.1.1. Sunspot Theory or Climatic Theory:

It is the oldest theory of trade cycle. It is associated with W.S.Jevons and later on developed by H.C.Moore. According to this theory, the spot that appears on the sun influences the climatic conditions. When the spot appears, it will affect rainfall and hence agricultural crops.

When there is crop failure that will result in depression. On the other hand, if the spot did not appear on the sun, rainfall is good leading to prosperity. Thus, the variations in climate are so regular that depression is followed by prosperity.

However, this theory is not accepted today. Trade cycle is a complex phenomenon and it cannot be associated with climatic conditions. If this theory is correct, then industrialised countries should be free from cyclical fluctuations. But it is the advanced, industrialised countries which are affected by trade cycles.

6.3.1.2. Psychological Theory:

This theory was developed by A.C. Pigou. He emphasized the role of psychological factor in the generation of trade cycles. According to Pigou, the main cause for trade cycle is optimism and pessimism among business people and bankers. During the period of good trade, entrepreneurs become optimistic which would lead to increase in production.

The feeling of optimism is spread to other. Hence investments are increased beyond limits and there is over production, which results in losses. Entrepreneurs become pessimistic and reduce their investment and production. Thus, fluctuations are due to optimism leading to prosperity and pessimism resulting depression.

Though there is an element of truth in this theory, this theory is unable to explain the occurrence of boom and starting of revival. Further this theory fails to explain the periodicity of trade cycle.

6.3.1.3. Overinvestment Theory:

Arthur Spiethoff and D.H. Robertson have developed the over investment theory. It is based on Say's law of markets. It believes that over production in one sector leads to over production in other sectors. Suppose, there is over production and excess supply in one sector, that will result in fall in price and income of the people employed in that sector. Fall in income will lead to a decline in demand for goods and services produced by other sectors. This will create over production in other sectors.

Spiethoff has pointed out that over investment is the cause for trade cycle. Over investment is due to indivisibility of investment and excess supply of bank credit. He gives the example of a railway company which lays down one more track to avoid traffic congestion. But this may result in excess capacity because the additional traffic may not be sufficient to utilise the second track fully.

Over investment and overproduction are encouraged by monetary factors. If the banking system places more money in the hands of entrepreneurs, prices will increase. The rise in prices may induce the entrepreneurs to increase their investments leading to over-investment. Thus Prof. Robertson has successfully combined real and monetary factors to explain business cycle.

This theory is realistic in the sense that it considers over investment as the cause of trade cycle. But it has failed to explain revival.

6.3.1.4. Over-Saving or Under Consumption Theory:

This theory is the oldest explanation of the cyclical fluctuations. This theory has been formulated by Malthus, Marx and Hobson. According to this theory, depression is due to over-saving. In the modern society, there is great inequalities of income. Rich people have large income but their marginal propensity to consume is less.

Hence they save and invest which results in an increase in the volume of goods. This causes a general glut in the market. At the same time, as majority of the people are poor, they have low propensity to consume. Therefore, consumption will not increase. Increase in the supply of goods and decline in the demand create under consumption and hence over production.

This theory is not free from criticism. This theory explains only the turning point from prosperity to depression. It does not say anything about recovery. This theory assumes that the amount saved would be automatically invested. But this is not true. It pays too much attention on saving and too little on others.

6.3.1.5. Keynes' Theory of Trade Cycles:

Keynes doesn't develop a complete and pure theory of trade cycles. According to Keynes, effective demand is composed of consumption and investment expenditure. It is effective demand which determines the level of income and employment.

Therefore, changes in total expenditure i.e., consumption and investment expenditures, affect effective demand and this will bring about fluctuation in economic activity. Keynes believes that consumption expenditure is stable and it is the fluctuation in investment expenditure which is responsible for changes in output, income and employment.

Investment depends on rate of interest and marginal efficiency of capital. Since rate of interest is more or less stable, marginal efficiency of capital determines investment. Marginal efficiency of capital depends on two factors – prospective yield and supply price of the capital asset. An increase in MEC will create more employment, output and income leading to prosperity. On the other hand, a decline in MEC leads to unemployment and fall in income and output. It results in depression.

During the period of expansion businessmen are optimistic. MEC is rapidly increasing and rate of interest is sticky. So entrepreneurs undertake new investment. The process of expansion goes on till the boom is reached. As the process of expansion continues, cost of production increases, due to scarcity of factors of production. This will lead to a fall in MEC. Further, price of the product falls due to abundant supply leading to a decline in profits.

This leads to depression. As time passes, existing machinery becomes worn out and has to be replaced. Surplus stocks of goods are exhausted. As there is a fall in price of raw-materials and equipment, costs fall. Wages also go down. MEC increases leading to recovery. Keynes states that, "Trade cycle can be described and analyzed in terms of the fluctuations of the marginal efficiency of capital relatively to the rate of interest".

The merit of Keynes' theory lies in explaining the turning points-the lower and upper turning points of a trade cycle. The earlier economists considered the changes in the amount of credit given by banking system to be responsible for cyclical fluctuations. But for Keynes, the change in consumption function with its effect on MEC is responsible for trade cycle. Keynes, thus, has given a satisfactory explanation of the turning points of the trade cycle, "Keynes consumption function filled a serious gap and corrected a serious error in the previous theory of the business cycle". (Metzler).

Critics have pointed out the weakness of Keynes' theory. Firstly, according to Keynes the main cause for trade cycle is the fluctuations in MEC. But the term marginal efficiency of capital is vague. MEC depends on the expectations of the entrepreneur about future. In this sense, it is similar to that of Pigou's psychological theory. He has ignored real factors.

Secondly, Keynes assumes that rate of interest is stable. But rate of interest does play an important role in decision making process of entrepreneurs.

Thirdly, Keynes does not explain periodicity of trade cycle. In a period of recession and depression, according to Keynes, rate of interest should be high due to strong liquidity preference. But, during this period, rate of interest is very low. Similarly during boom, rate of interest should be low because of weak liquidity preference; but actually the rate of interest is high.

6.3.1.6. Schumpeter's Innovation Theory:

Joseph A. Schumpeter has developed innovation theory of trade cycles. An innovation includes the discovery of a new product, opening of a new market, reorganization of an industry and development of a new method of production. These innovations may reduce the cost of production and may shift the demand curve. Thus innovations may bring about changes in economic conditions.

Suppose, at the full employment level, an innovation in the form of a new product has been introduced. Innovation is financed by bank loans. As there is full employment already, factors of production have to be withdrawn from others to manufacture the new product. Hence, due to competition for factors of production costs may go up, leading to an increase in price.

When the new product becomes successful, other entrepreneurs will also produce similar products. This will result in cumulative expansion and prosperity. When the innovation is adopted by many, supernormal profits will be competed away. Firms incurring losses will go out of business. Employment, output and income fall resulting in depression.

Schumpeter's theory has been criticised on the following grounds.

Firstly, Schumpter's theory is based on two assumptions viz., full employment and that innovation is being financed by banks. But full employment is an unrealistic assumption, as no country in the world has achieved full employment. Further innovation is usually financed by the promoters and not by banks. Secondly, innovation is not the only cause of business cycle. There are many other causes which have not been analysed by Schumpter.

6.3.2. Monetary Theories of Trade Cycles:

6.3.2.1. Over-Investment Theory:

Prof. Von Hayek in his books on "Monetary Theory and Trade Cycle" and "Prices and Production" has developed a theory of trade cycle. He has distinguished between equilibrium or natural rate of interest and market rate of interest. Market rate of interest is one at which demand for and supply of money are equal.

Equilibrium rate of interest is one at which savings are equal to investment. If both equilibrium rate of interest and market rate of interest are equal, there will be stability in the economy. If equilibrium rate of interest is higher than market rate of interest there will be prosperity and vice versa.

For instance, if the market rate of interest is lower than equilibrium rate of interest due to increase in money supply, investment will go up. The demand for capital goods will increase leading to a rise in price of these goods. As a result, there will be a diversion of resources from consumption goods industries to capital goods industries. Employment and income of the factors of production in capital goods industries will increase.

This will increase the demand for consumption goods. There will be competition for factors of production between capital goods and consumption good industries. Factor prices go up. Cost of production increases. At this time, banks will decide to reduce credit expansion. This will lead to rise in market rate of interest above the equilibrium rate of interest. Investment will fall; production declines leading to depression.

Hayek's theory has certain weaknesses:

1. It is not easy to transfer resources from capital goods industries to consumer goods industries and vice versa.
2. This theory does not explain all the phases of trade cycle.
3. It gives too much importance to rate of interest in determining investment. It has neglected other factors determining investment.
4. Hayek has suggested that the volume of money supply should be kept neutral to solve the problem of cyclical fluctuations. But this concept of neutrality of money is based on old quantity theory of money which has lost its validity.

6.3.2.2. Hawtrey's Monetary Theory:

Prof. Hawtrey considers trade cycle to be a purely monetary phenomenon. According to him non-monetary factors like wars, strike, floods, drought may cause only temporary depression. Hawtrey believes that expansion and contraction of money are the basic causes of trade cycle. Money supply changes due to changes in rates of interest.

When rate of interest is reduced by banks, entrepreneurs will borrow more and invest. This causes an increase in money supply and rise in price leading to expansion. On the other hand, an increase in the rate of interest will lead to reduction in borrowing, investment, prices and business activity and hence depression.

Hawtrey believes that trade cycle is nothing but small scale replica of inflation and deflation. An increase in money supply will lead to boom and vice versa, a decrease in money supply will result in depression.

Banks will give more loans to traders and merchants by lowering the rate of interest. Merchants place more orders which induce the entrepreneurs to increase production by employing more labourers. This results in increase in employment and income leading to an increase in demand for goods. Thus the phase of expansion starts.

Business expands; factors of production are fully employed; price increases further, resulting in boom conditions. At this time, the

banks call off loans from the borrowers. In order to repay the loans, the borrowers sell their stocks. This sudden disposal of goods leads to fall in prices and liquidation of marginal firms. Banks will further contract credit.

Thus the period of contraction starts making the producers reduce their output. The process of contraction becomes cumulative leading to depression. When the economy is at the level of depression, banks have excess reserves. Therefore, banks will lend at a low rate of interest which makes the entrepreneurs to borrow more. Thus revival starts, becomes cumulative and leads to boom.

Hawtrey's theory has been criticised on many grounds:

1. Hawtrey's theory is considered to be an incomplete theory as it does not take into account the non-monetary factors which cause trade cycles.
2. It is wrong to say that banks alone cause business cycle. Credit expansion and contraction do not lead to boom and depression. But they are accentuated by bank credit.
3. The theory exaggerates the importance of bank credit as a means of financing development. In recent years, all firms resort to plough back of profits for expansion.
4. Mere contraction of bank credit will not lead to depression if marginal efficiency of capital is high. Businessmen will undertake investment in-spite of high rate of interest if they feel that the future prospects are bright.
5. Rate of interest does not determine the level of borrowing and investment. A high rate of interest will not prevent the people to borrow. Therefore, it may be stated that banking system cannot originate a trade cycle. Expansion and contraction of credit may be a supplementary cause but not the main and sole cause of trade cycle.

6.4 SELF-ASSESSMENT QUESTIONS

Part – A

14. What is meant by trade cycle?
15. List out the classification of theories of trade cycle.
16. Who is the author of innovation theory?
17. Write any two weakness of Hayek's theory.

Part – B

14. What are the features of trade cycle?
15. Briefly explain the concept of Climate theory?
16. Write a note on monetary theories of trade cycle?

Part – C

6. Explain detail the theories of trade cycle.
7. Discuss the Hawtrey's monetary theory.

UNIT-VII: INFLATION

Contents

7.1 INTRODUCTION

Inflation and unemployment are the two most talked-about words in the contemporary society. These two are the big problems that plague all the economies. Almost everyone is sure that he knows what inflation exactly is, but it remains a source of great deal of confusion because it is difficult to define it unambiguously.

7.2 MEANING OF INFLATION:

Inflation is often defined in terms of its supposed causes. Inflation exists when money supply exceeds available goods and services. Or inflation is attributed to budget deficit financing. A deficit budget may be financed by the additional money creation. But the situation of monetary expansion or budget deficit may not cause price level to rise. Hence the difficulty of defining 'inflation'. Inflation may be defined as 'a sustained upward trend in the general level of prices' and not the price of only one or two goods. G. Ackley defined inflation as 'a persistent and appreciable rise in the general level or average of

prices'. In other words, inflation is a state of rising prices, but not high prices.

It is not high prices but rising price level that constitute inflation. It constitutes, thus, an overall increase in price level. It can, thus, be viewed as the devaluing of the worth of money. In other words, inflation reduces the purchasing power of money. A unit of money now buys less. Inflation can also be seen as a recurring phenomenon. While measuring inflation, we take into account a large number of goods and services used by the people of a country and then calculate average increase in the prices of those goods and services over a period of time. A small rise in prices or a sudden rise in prices is not inflation since they may reflect the short term workings of the market.

It is to be pointed out here that inflation is a state of disequilibrium when there occurs a sustained rise in price level. It is inflation if the prices of most goods go up. Such rate of increases in prices may be both slow and rapid. However, it is difficult to detect whether there is an upward trend in prices and whether this trend is sustained. That is why inflation is difficult to define in an unambiguous sense. Let's measure inflation rate. Suppose, in December 2007, the consumer price index was 193.6 and, in December 2008, it was 223.8. Thus, the inflation rate during the last one year was

$$223.8 - 193.6 / 193.6 \times 100 = 15.6$$

As inflation is a state of rising prices, deflation may be defined as a state of falling prices but not fall in prices. Deflation is, thus, the opposite of inflation, i.e., a rise in the value of money or purchasing power of money. Disinflation is a slowing down of the rate of inflation.

7.3 TYPES OF INFLATION:

As the nature of inflation is not uniform in an economy for all the time, it is wise to distinguish between different types of inflation. Such analysis is useful to study the distributional and other effects of inflation as well as to recommend anti-inflationary policies. Inflation may be caused by a variety of factors. Its intensity or pace may be different at different times. It may also be classified in accordance with the reactions of the government toward inflation.

Thus, one may observe different types of inflation in the contemporary society:

7.3.1 On the Basis of Causes:

(i) Currency inflation:

This type of inflation is caused by the printing of currency notes.

(ii) Credit inflation:

Being profit-making institutions, commercial banks sanction more loans and advances to the public than what the economy needs. Such credit expansion leads to a rise in price level.

(iii) Deficit-induced inflation:

The budget of the government reflects a deficit when expenditure exceeds revenue. To meet this gap, the government may ask the central bank to print additional money. Since pumping of additional money is required to meet the budget deficit, any price rise may the be called the deficit-induced inflation.

(iv) Demand-pull inflation:

An increase in aggregate demand over the available output leads to a rise in the price level. Such inflation is called demand-pull inflation (henceforth DPI). But why does aggregate demand rise? Classical economists attribute this rise in aggregate demand to money supply. If the supply of money in an economy exceeds the available goods and services, DPI appears. It has been described by Coulborn as a situation of "too much money chasing too few goods."



Keynesians hold a different argument. They argue that there can be an autonomous increase in aggregate demand or spending, such as a rise in consumption demand or investment or government spending or a tax cut or a net increase in exports (i.e., C + I + G + X – M) with no increase in money supply. This would prompt upward adjustment in price. Thus, DPI is caused by monetary factors (classical adjustment) and non-monetary factors (Keynesian argument).

DPI can be explained in terms of Fig. 4.2, where we measure output on the horizontal axis and price level on the vertical axis. In Range 1, total spending is too short of full employment output, Y_F. There is little or no rise in the price level. As demand now rises, output will rise. The economy enters Range 2, where output approaches towards full employment situation. Note that in this region price level begins to rise. Ultimately, the economy reaches full employment situation, i.e., Range 3, where output does not rise but price level is pulled upward. This is demand-pull inflation. The essence of this type of inflation is that "too much spending chasing too few goods."

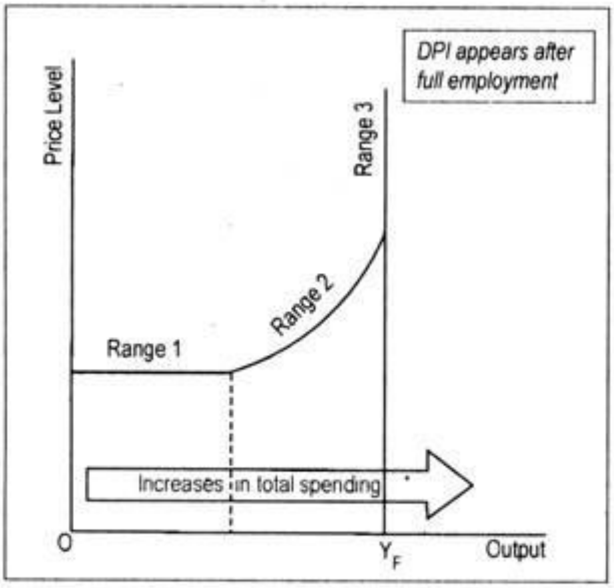


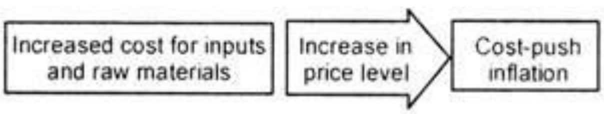
Fig. 4.2: Demand-pull Inflation

(v) Cost-push inflation:

Inflation in an economy may arise from the overall increase in the cost of production. This type of inflation is known as cost-push inflation (henceforth CPI). Cost of production may rise due to an increase in the prices of raw materials, wages, etc. Often trade unions are blamed for wage rise since wage rate is not completely market-determinded. Higher wage means high cost of production. Prices of commodities are thereby increased.

A wage-price spiral comes into operation. But, at the same time, firms are to be blamed also for the price rise since they simply raise prices to expand their profit margins. Thus, we have two important variants of CPI wage-push inflation and profit-push inflation.

Anyway, CPI stems from the leftward shift of the aggregate supply curve:



7.3.2 On the Basis of Speed or Intensity:

(i) Creeping or Mild Inflation:

If the speed of upward thrust in prices is slow but small then we have creeping inflation. What speed of annual price rise is a creeping one has not been stated by the economists. To some, a creeping or mild inflation is one when annual price rise varies between 2 p.c. and 3 p.c.

If a rate of price rise is kept at this level, it is considered to be helpful for economic development. Others argue that if annual price rise goes slightly beyond 3 p.c. mark, still then it is considered to be of no danger.

(ii) Walking Inflation:

If the rate of annual price increase lies between 3 p.c. and 4 p.c., then we have a situation of walking inflation. When mild inflation is allowed to fan out, walking inflation appears. These two types of inflation may be described as 'moderate inflation'.

Often, one-digit inflation rate is called 'moderate inflation' which is not only predictable, but also keep people's faith on the monetary system of the country. Peoples' confidence get lost once moderately maintained rate of inflation goes out of control and the economy is then caught with the galloping inflation.

(iii) Galloping and Hyperinflation:

Walking inflation may be converted into running inflation. Running inflation is dangerous. If it is not controlled, it may ultimately be converted to galloping or hyperinflation. It is an extreme form of inflation when an economy gets shattered."Inflation in the double or triple digit range of 20, 100 or 200 p.c. a year is labelled "galloping inflation".

(iv) Government's Reaction to Inflation:

Inflationary situation may be open or suppressed. Because of anti-inflationary policies pursued by the government, inflation may not be an embarrassing one. For instance, increase in income leads to an increase in consumption spending which pulls the price level up.

If the consumption spending is countered by the government via price control and rationing device, the inflationary situation may be called a suppressed one. Once the government curbs are lifted, the suppressed inflation becomes open inflation. Open inflation may then result in hyperinflation.

7.4 THEORY OF INFLATION:

Inflation is mainly caused by excess demand/ or decline in aggregate supply or output. Former leads to a rightward shift of the aggregate demand curve while the latter causes aggregate supply curve to shift leftward. Former is called demand-pull inflation (DPI), and the latter is called cost-push inflation (CPI). Before describing the factors, that lead to a rise in aggregate demand and a decline in aggregate supply, we like to explain "demand-pull" and "cost-push" theories of inflation.

NOTES

7.4.1Demand-Pull Inflation Theory:

There are two theoretical approaches to the DPI—one is classical and other is the Keynesian. According to classical economists or monetarists, inflation is caused by an increase in money supply which leads to a rightward shift in negative sloping aggregate demand curve. Given a situation of full employment, classicists maintained that a change in money supply brings about an equiproportionate change in price level.

That is why monetarists argue that inflation is always and everywhere a monetary phenomenon. Keynesians do not find any link between money supply and price level causing an upward shift in aggregate demand. According to Keynesians, aggregate demand may rise due to a rise in consumer demand or investment demand or government expenditure or net exports or the combination of these four components of aggreate demand. Given full employment, such increase in aggregate demand leads to an upward pressure in prices. Such a situation is called DPI. This can be explained graphically.

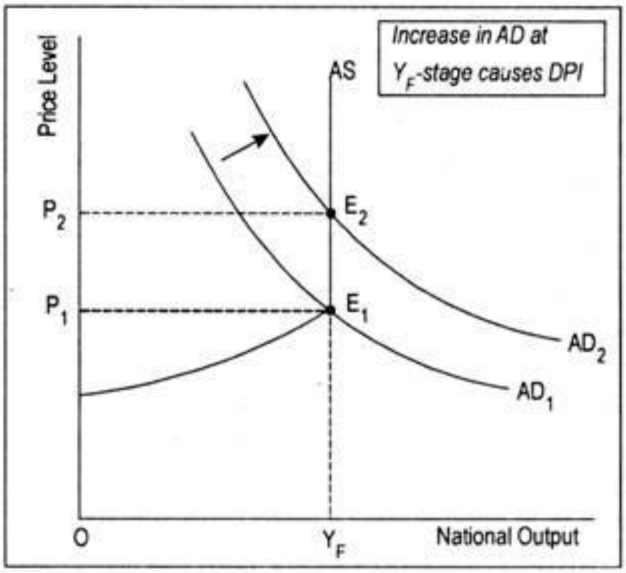


Fig. 4.3: DPI: Shifts in AD Curve

Just like the price of a commodity, the level of prices is determined by the interaction of aggregate demand and aggregate supply. In Fig. 4.3, aggregate demand curve is negative sloping while aggregate supply curve before the full employment stage is positive sloping and becomes vertical after the full employment stage is reached. AD_1 is the initial aggregate demand curve that intersects the aggregate supply curve AS at point E_1.

The price level, thus, determined is OP_1. As aggregate demand curve shifts to AD_2, price level rises to OP_2. Thus, an increase in aggregate demand at the full employment stage leads to an increase in price level only, rather than the level of output. However, how much price level will rise following an increase in aggregate demand depends on the slope of the AS curve.

(ii) Causes of Demand-Pull Inflation:

DPI originates in the monetary sector. Monetarists' argument that "only money matters" is based on the assumption that at or near full employment excessive money supply will increase aggregate demand and will, thus, cause inflation.

An increase in nominal money supply shifts aggregate demand curve rightward. This enables people to hold excess cash balances. Spending of excess cash balances by them causes price level to rise. Price level will continue to rise until aggregate demand equals aggregate supply.

Keynesians argue that inflation originates in the non-monetary sector or the real sector. Aggregate demand may rise if there is an increase in consumption expenditure following a tax cut. There may be an autonomous increase in business investment or government expenditure. Government expenditure is inflationary if the needed money is procured by the government by printing additional money.

In brief, increase in aggregate demand i.e., increase in (C + I + G + X – M) causes price level to rise. However, aggregate demand may rise following an increase in money supply generated by the printing of additional money (classical argument) which drives prices upward. Thus, money plays a vital role. That is why Milton Friedman argues that inflation is always and everywhere a monetary phenomenon.

There are other reasons that may push aggregate demand and, hence, price level upwards. For instance, growth of population stimulates aggregate demand. Higher export earnings increase the purchasing power of the exporting countries. Additional purchasing power means additional aggregate demand. Purchasing power and, hence, aggregate demand may also go up if government repays public debt.

Again, there is a tendency on the part of the holders of black money to spend more on conspicuous consumption goods. Such tendency fuels inflationary fire. Thus, DPI is caused by a variety of factors.

7.4.2 Cost-Push Inflation Theory:

In addition to aggregate demand, aggregate supply also generates inflationary process. As inflation is caused by a leftward shift of the aggregate supply, we call it CPI. CPI is usually associated with non-monetary factors. CPI arises due to the increase in cost of production. Cost of production may rise due to a rise in cost of raw materials or increase in wages. However, wage increase may lead to an increase in productivity of workers. If this happens, then the AS curve will shift to the right- ward not leftward—direction. We assume here that productivity does not change in spite of an increase in wages.

Such increases in costs are passed on to consumers by firms by raising the prices of the products. Rising wages lead to rising costs. Rising costs lead to rising prices. And, rising prices again prompt trade unions to demand higher wages. Thus, an inflationary wage-price spiral starts. This causes aggregate supply curve to shift leftward.

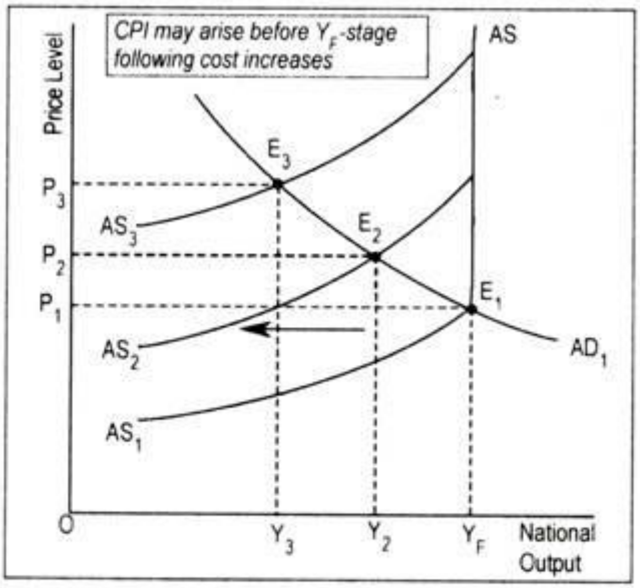


Fig. 4.4: CPI: Shifts in AS Curve

This can be demonstrated graphically where AS_1 is the initial aggregate supply curve. Below the full employment stage this AS curve is positive sloping and at full employment stage it becomes perfectly inelastic. Intersection point (E_1) of AD_1 and AS_1 curves determine the price level (OP_1). Now there is a leftward shift of aggregate supply curve to AS_2. With no change in aggregate demand, this causes price level to rise to OP_2 and output to fall to OY_2. With the reduction in output, employment in the economy declines or unemployment rises. Further shift in AS curve to AS_3 results in a higher price level (OP_3)

and a lower volume of aggregate output (OY_3). Thus, CPI may arise even below the full employment (Y_F) stage.

(iv) Causes of Cost-Push Inflation:

It is the cost factors that pull the prices upward. One of the important causes of price rise is the rise in price of raw materials. For instance, by an administrative order the government may hike the price of petrol or diesel or freight rate. Firms buy these inputs now at a higher price. This leads to an upward pressure on cost of production. Not only this, CPI is often imported from outside the economy. Increase in the price of petrol by OPEC compels the government to increase the price of petrol and diesel. These two important raw materials are needed by every sector, especially the transport sector. As a result, transport costs go up resulting in higher general price level. Again, CPI may be induced by wage-push inflation or profit-push inflation. Trade unions demand higher money wages as a compensation against inflationary price rise. If increase in money wages exceed labour productivity, aggregate supply will shift upward and leftward. Firms often exercise power by pushing prices up independently of consumer demand to expand their profit margins.

Fiscal policy changes, such as increase in tax rates also leads to an upward pressure in cost of production. For instance, an overall increase in excise tax of mass consumption goods is definitely inflationary. That is why government is then accused of causing inflation. Finally, production setbacks may result in decreases in output. Natural disaster, gradual exhaustion of natural resources, work stoppages, electric power cuts, etc., may cause aggregate output to decline. In the midst of this output reduction, artificial scarcity of any goods created by traders and hoarders just simply ignite the situation. Inefficiency, corruption, mismanagement of the economy may also be the other reasons. Thus, inflation is caused by the interplay of various factors. A particular factor cannot be held responsible for any inflationary price rise.

7.5 EFFECTS OF INFLATION:

People's desires are inconsistent. When they act as buyers they want prices of goods and services to remain stable but as sellers they expect the prices of goods and services should go up. Such a happy outcome may arise for some individuals; "but, when this happens, others will be getting the worst of both worlds." When price level goes up, there is both a gainer and a loser. To evaluate the consequence of inflation, one must identify the nature of inflation which may be anticipated and unanticipated. If inflation is anticipated, people can

adjust with the new situation and costs of inflation to the society will be smaller.

In reality, people cannot predict accurately future events or people often make mistakes in predicting the course of inflation. In other words, inflation may be unanticipated when people fail to adjust completely. This creates various problems.

One can study the effects of unanticipated inflation under two broad headings:

(a) Effect on distribution of income and wealth; and

(b) Effect on economic growth.

7.5.1 Effects of Inflation on Distribution of Income and Wealth:

During inflation, usually people experience rise in incomes. But some people gain during inflation at the expense of others. Some individuals gain because their money incomes rise more rapidly than the prices and some lose because prices rise more rapidly than their incomes during inflation. Thus, it redistributes income and wealth. Though no conclusive evidence can be cited, it can be asserted that following categories of people are affected by inflation differently:

(i) Creditors and debtors:

Borrowers gain and lenders lose during inflation because debts are fixed in rupee terms. When debts are repaid their real value declines by the price level increase and, hence, creditors lose. An individual may be interested in buying a house by taking loan of Rs. 7 lakh from an institution for 7 years. The borrower now welcomes inflation since he will have to pay less in real terms than when it was borrowed. Lender, in the process, loses since the rate of interest payable remains unaltered as per agreement. Because of inflation, the borrower is given 'dear' rupees, but pays back 'cheap' rupees. However, if in an inflation-ridden economy creditors chronically loose, it is wise not to advance loans or to shut down business. Never does it happen. Rather, the loan-giving institution makes adequate safeguard against the erosion of real value. Above all, banks do not pay any interest on current account but charges interest on loans.

(ii) Bond and debenture-holders:

In an economy, there are some people who live on interest income—they suffer most. Bondholders earn fixed interest income: These people suffer a reduction in real income when prices rise. In other words, the value of one's savings decline if the interest rate falls short of inflation rate. Similarly, beneficiaries from life insurance

programmes are also hit badly by inflation since real value of savings deteriorate.

(iii) Investors:

People who put their money in shares during inflation are expected to gain since the possibility of earning of business profit brightens. Higher profit induces owners of firm to distribute profit among investors or shareholders.

(iv) Salaried people and wage-earners:

Anyone earning a fixed income is damaged by inflation. Sometimes, unionised worker succeeds in raising wage rates of white-collar workers as a compensation against price rise. But wage rate changes with a long time lag. In other words, wage rate increases always lag behind price increases. Naturally, inflation results in a reduction in real purchasing power of fixed income-earners.

On the other hand, people earning flexible incomes may gain during inflation. The nominal incomes of such people outstrip the general price rise. As a result, real incomes of this income group increase.

(v) Profit-earners, speculators and black marketers:

It is argued that profit-earners gain from inflation. Profit tends to rise during inflation. Seeing inflation, businessmen raise the prices of their products. This results in a bigger profit. Profit margin, however, may not be high when the rate of inflation climbs to a high level.

However, speculators dealing in business in essential commodities usually stand to gain by inflation. Black marketers are also benefited by inflation.

Thus, there occurs a redistribution of income and wealth. It is said that rich becomes richer and poor becomes poorer during inflation. However, no such hard and fast generalisation can be made. It is clear that someone wins and someone loses during inflation.

These effects of inflation may persist if inflation is unanticipated. However, the redistributive burdens of inflation on income and wealth are most likely to be minimal if inflation is anticipated by the people. With anticipated inflation, people can build up their strategies to cope with inflation.

If the annual rate of inflation in an economy is anticipated correctly people will try to protect them against losses resulting from inflation. Workers will demand 10 p.c. wage increase if inflation is expected to rise by 10 p.c. Similarly, a percentage of inflation premium will be demanded by creditors from debtors. Business firms will also fix prices of their products in accordance with the anticipated price rise.

Now if the entire society "learn to live with inflation", the redistributive effect of inflation will be minimal.

However, it is difficult to anticipate properly every episode of inflation. Further, even if it is anticipated it cannot be perfect. In addition, adjustment with the new expected inflationary conditions may not be possible for all categories of people. Thus, adverse redistributive effects are likely to occur.

Finally, anticipated inflation may also be costly to the society. If people's expectation regarding future price rise become stronger they will hold less liquid money. Mere holding of cash balances during inflation is unwise since its real value declines. That is why people use their money balances in buying real estate, gold, jewellery, etc. Such investment is referred to as unproductive investment. Thus, during inflation of anticipated variety, there occurs a diversion of resources from priority to non-priority or unproductive sectors.

7.5.2 Effect on Production and Economic Growth:

Inflation may or may not result in higher output. Below the full employment stage, inflation has a favourable effect on production. In general, profit is a rising function of the price level. An inflationary situation gives an incentive to businessmen to raise prices of their products so as to earn higher volume of profit. Rising price and rising profit encourage firms to make larger investments.

As a result, the multiplier effect of investment will come into operation resulting in a higher national output. However, such a favourable effect of inflation will be temporary if wages and production costs rise very rapidly. Further, inflationary situation may be associated with the fall in output, particularly if inflation is of the cost-push variety. Thus, there is no strict relationship between prices and output. An increase in aggregate demand will increase both prices and output, but a supply shock will raise prices and lower output.

Inflation may also lower down further production levels. It is commonly assumed that if inflationary tendencies nurtured by experienced inflation persist in future, people will now save less and consume more. Rising saving propensities will result in lower further outputs.

One may also argue that inflation creates an air of uncertainty in the minds of business community, particularly when the rate of inflation fluctuates. In the midst of rising inflationary trend, firms cannot accurately estimate their costs and revenues. That is, in a situation of unanticipated inflation, a great deal of risk element exists.

It is because of uncertainty of expected inflation, investors become reluctant to invest in their business and to make long-term commitments. Under the circumstance, business firms may be deterred in investing. This will adversely affect the growth performance of the economy. However, slight dose of inflation is necessary for economic growth. Mild inflation has an encouraging effect on national output. But it is difficult to make the price rise of a creeping variety. High rate of inflation acts as a disincentive to long run economic growth. The way the hyperinflation affects economic growth is summed up here. We know that hyper-inflation discourages savings.

A fall in savings means a lower rate of capital formation. A low rate of capital formation hinders economic growth. Further, during excessive price rise, there occurs an increase in unproductive investment in real estate, gold, jewellery, etc. Above all, speculative businesses flourish during inflation resulting in artificial scarcities and, hence, further rise in prices. Again, following hyperinflation, export earnings decline resulting in a wide imbalances in the balance of payment account. Often galloping inflation results in a 'flight' of capital to foreign countries since people lose confidence and faith over the monetary arrangements of the country, thereby resulting in a scarcity of resources. Finally, real value of tax revenue also declines under the impact of hyperinflation. Government then experiences a shortfall in investible resources. Thus economists and policymakers are unanimous regarding the dangers of high price rise. But the consequence of hyperinflation are disastrous. In the past, some of the world economies (e.g., Germany after the First World War (1914-1918), Latin American countries in the 1980s) had been greatly ravaged by hyperinflation.

7.6 THE PHILLIPS CURVE

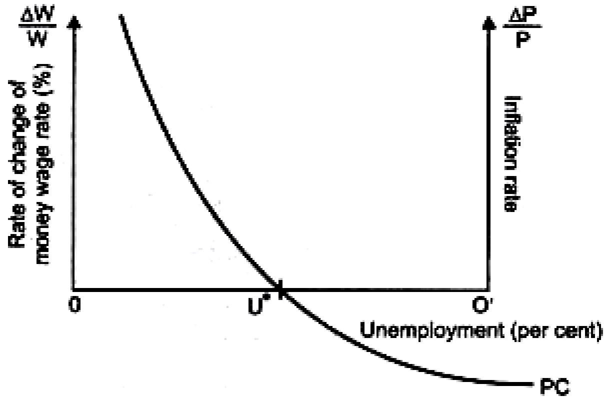


FIG. 13.6

To explain the trade off between growth rate of wages and unemployment:

Let $W_t \rightarrow$ Wage in the last period

$W_{t+1} \rightarrow$ Wage in this current period

Then growth rate of wage inflation (g_w) will be:

$$g_w = \frac{w_{t+1} - w_t}{w_t} \quad ...(1)$$

Phillips curve relationship

With U* representing NRU, the equation of Phillips curve, can be written as:

$$g_w = -\epsilon\,(U - U^*) \quad ...(1a)$$

$\epsilon \rightarrow$ Response of wage change to Unemployment rate

The Phillips curve given by A.W. Phillips shows that there exist an inverse relationship between the rate of unemployment and the rate of increase in nominal wages. A lower rate of unemployment is associated with higher wage rate or inflation, and vice versa. In other words, there is a tradeoff between wage inflation and unemployment. Reason: during boom, demand for labour increases. Due to greater bargaining power of the trade union, wage increases. Thus, decrease in unemployment leads to increase in the wage (Fig. 13.6). But when wage increases, the firms cost of production increases which leads to increase in price. Therefore it is also called wage inflation, that is, decrease in unemployment leads to wage inflation. (Fig. 13.6)

This shows that there exists inverse relationship between the rate of unemployment and growth rate of money wages. The Phillips Curve shows that wages and prices adjust slowly to changes in AD due to imperfections in the labour market. e.g. Assume: Initially, the

economy is in equilibrium with stable prices and unemployment at NRU (U^*) (Fig. 13.7). If Money supply increases by 10%, with price level constant, real money supply (M/P) will increase. This will lead to decrease in interest rate and thus increase in AD which in turn will lead to an increase in both wages and prices by 10% so that the economy reaches back to the full employment equilibrium level (U^*) i.e. at NRU.

$U - U^* \rightarrow$ Unemployment gap
$U \rightarrow$ Actual unemployment
$U^* \rightarrow$ NRU

or $\quad W_{t+1} = W_t [1 - \epsilon (U - U^*]^2 \; ... (2)$

– (*For proof refer to 13.1*

Equation (1*a*) shows:

if $U > U^*$ wages are falling because g_w is negative ($g_w < 0$)

$U < U^*$ wages are rising because g_w is positive ($g_w > 0$)

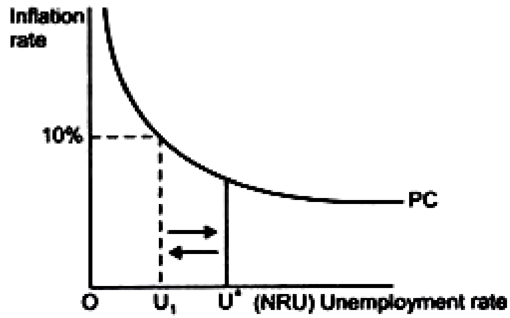


FIG. 13.7

Thus, Phillips curve shows that when wage increases by 10%, unemployment rate will fall from U* to U_1. This will cause the wage rate to increase, but when wage increases, prices will also increase and eventually the economy will return back to the full-employment level of output and unemployment. Rewriting equation 1 which shows Relation between wage inflation to unemployment

$$W_{t+1} = w_t [1 - \epsilon(U - U^*)] \quad ...(2)$$

Equation shows that wages will increase only if $U < U^*$

Since Phillips curve shows a trade-off between inflation and unemployment rate, any attempt to solve the problem of inflation will lead to an increase in the unemployment. Similarly, any attempt to decrease unemployment will aggravate inflation. Thus, the negative sloped Phillips Curve suggested that the policy makers in the short run

could choose different combinations of unemployment and inflation rates. In the long run, however, permanent unemployment – inflation trade off is not possible because in the long run Phillips curve is vertical. Since in the short run AS curve (Phillips Curve) is quite flat, therefore, a trade off between unemployment and inflation rate is possible. It offers the policy makers to choose a combination of appropriate rate of unemployment and inflation.

7.6.1. Wage – Unemployment Relationship:

(Relationship between g_w and the level of employment)

Why are wages sticky? Or Why nominal wages adjust slowly to changes in demand?

According to the Neo-Classical theory of supply, wages respond and adjust quickly to ensure that output is always at full-employment level. This is because wages and prices are completely flexible. Therefore, the economy will always produce full employment output but the Phillips curve suggests that wages adjust slowly in response to changes in unemployment to ensure that output is at full employment level.

Reason:

The wages are sticky and therefore they move slowly over the time. They are not fully and immediately flexible, to ensure full employment at every point in time. To understand wage stickiness, the Phillips curve relationship is translated into a relationship between the rate of change of wages (g_w) and the level of employment.

Let $N^* \rightarrow$ full employment level

$N \rightarrow$ Actual employment level

Unemployment rate (u) is that fraction of full-employment labour force, N^*, which is not employed.

$$u - u^* = \frac{N^* - N}{N^*} \quad ...(ii) \quad \text{where } u - u^* \Rightarrow \text{Unemployment rate}$$

$$g_w = \frac{W_{t+1} - W_t}{W_t} \quad ... \text{ from } (i)$$

with u* representing NRU, the Phillips curve can be written as:

$g_w = - \in (U - U^*)$ ... (ia) $\quad \in \rightarrow$ Responsiveness of wages to unemployment

Putting value of (ii) in (ia).

$$\Rightarrow \quad g_w = - \in \left(\frac{N^* - N}{N^*}\right) \quad ...(iii)$$

Putting the value of g_w we get:

$$W_{t+1} = W_t\left[1 + \in\left(\frac{N - N^*}{N^*}\right)\right]^1 - \text{Wage employment relation} \quad ...(iv)$$

Equation (iv) shows the relationship between wage and employment, WN

Proof:

1. $$g_w = \frac{W_{t+1} - W_t}{W_t} \quad ...(i) \quad g_w \text{ in terms of wages}$$

$$g_w = - \in (U - U^*) ... (ia) \quad g_w \text{ in terms of unemployment}$$

$$\because \; u - u^* = \frac{N^* - N}{N^*} \quad ...(ii)$$

$\therefore$ Equation (*ia*) can be written as:

$$g_w = -\in\left(\frac{N^* - N}{N^*}\right) ...(iii)$$

$$\because (i) = (iii)$$

$$\therefore \frac{W_{t+1} - W_t}{W_t} = -\in\left(\frac{N^* - N}{N^*}\right)$$

or $$W_{t+1} - W_t = W_t\left[-\in\left(\frac{N^* - N}{N^*}\right)\right]$$

or $$W_{t+1} = W_t + W_t\left[-\in\left(\frac{N^* - N}{N^*}\right)\right]$$

or $$W_{t+1} = W_t\left[1 - \in\left(\frac{N^* - N}{N^*}\right)\right]$$

or $$W_{t+1} = W_t\left[1 + \in\left(\frac{N - N^*}{N^*}\right)\right]$$

Wage employment relation shows that:

Wages in this period = wages in the last period but with adjustment in the level of employment.

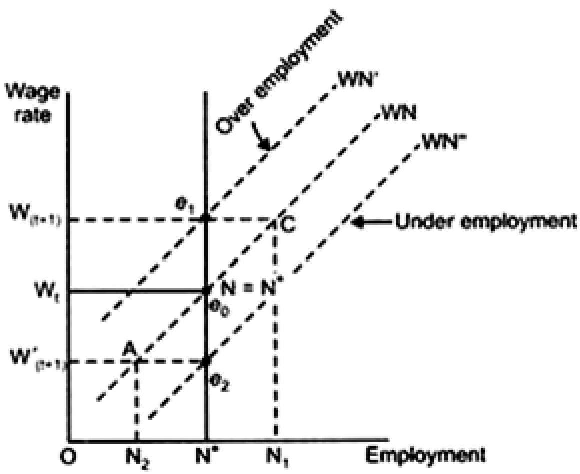


FIG. 13.8: WAGE EMPLOYMENT RELATION

There exists positive relationship between wages and employment because according to Phillips curve any attempt to decrease unemployment will lead to increase in wages. Decrease in unemployment means increase in employment. Therefore, when

employment increases wages increase. Thus, the positively sloped WN curve shows that the wage rate paid by firms is higher when more hours are worked.

Figure (13.8) shows that:

(*i*) Initially the economy is at full employment level

$N = N^*$ (at point e_0) $\quad N^* \rightarrow$ full employment level

$g_w \rightarrow$ Unemployment rate or wage inflation

when employment is at Neo-classical equilibrium level N^*

Wages in next period (W_{t+1}) = wages in this period (W_t)

$\therefore \; g_w = 0$

(*ii*) If employment level increases from N^* to N_1 there will be no shift in WN curve.

(*ii*) However $N_1 > N^*$ at point e_1

As Employment (N_1) is above full employment (N^*), that is over employment. Money wage will increase from W_t to W_{t+1} and the economy moves from point e_0 to *c* along the same WN curve.

$\because W_{t+1} > W_t$

$\therefore$ WN curve shifts upwards in the next period to WN′.

Reason: Any change in aggregate demand will affect the unemployment rate in the current period and will affect the wages in the subsequent period.

(*iii*) Similarly if $N < N^*$ (at point e_2)

Employment is N_2 which is below full employment level, that is, there is under employment in this period

$$W_{t+1} < W_t$$

WN curve shifts downwards in the next period to WN″

Joint points A, e_0, and C, we get the wage employment line which is positively sloped. However, the extent to which wage responds to employment depends on e (response of money wage growth to change in unemployment).

If ϵ is large — Unemployment has large affects on wage and WN line is steep.

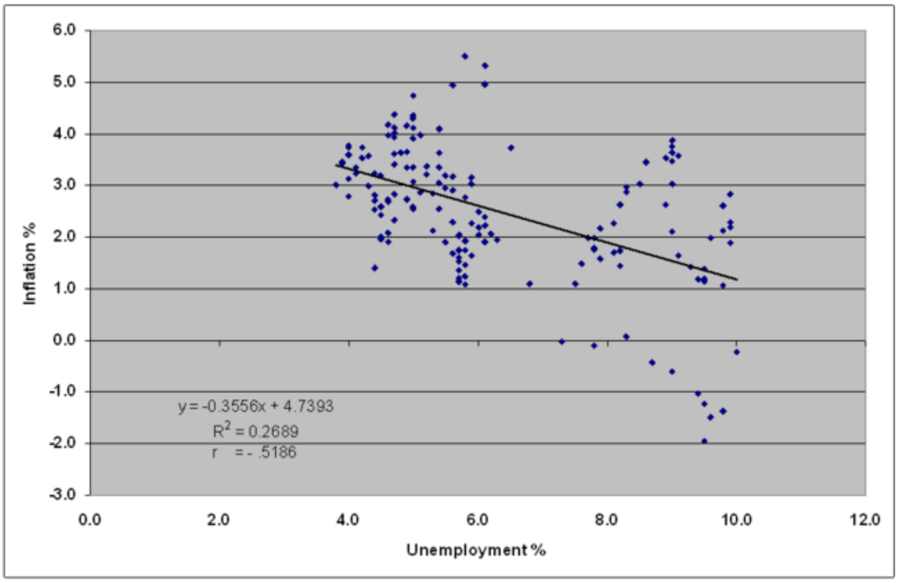
The Phillips curve, therefore, also implies that WN relationship shifts over the time if actual employment differs from full employment level. The changes in AD which alter the rate of unemployment in this period will affect wages in subsequent periods. The adjustment to changes in employment is dynamic, i.e., it takes place over the time.

7.7 SAMUELSON – SOLOW MODEL

The early idea for the Phillips curve was proposed in 1958 by economist A.W. Phillips. In his original paper, Phillips tracked wage changes and unemployment changes in Great Britain from 1861 to 1957, and found that there was a stable, inverse relationship between wages and unemployment. This correlation between wage changes and unemployment seemed to hold for Great Britain and for other industrial countries. In 1960, economists Paul Samuelson and Robert Solow expanded this work to reflect the relationship between inflation and unemployment. Because wages are the largest components of prices, inflation (rather than wage changes) could be inversely linked to unemployment.

The theory of the Phillips curve seemed stable and predictable. Data from the 1960's modeled the trade-off between unemployment and inflation fairly well. The Phillips curve offered potential economic policy outcomes: fiscal and monetary policy could be used to achieve full employment at the cost of higher price levels, or to lower inflation at the cost of lowered employment. However, when governments attempted to use the Phillips curve to control unemployment and inflation, the relationship fell apart. Data from the 1970's and onward did not follow the trend of the classic Phillips curve. For many years, both the rate of inflation and the rate of unemployment were higher than the Phillips curve would have predicted, a phenomenon known as "stagflation. " Ultimately, the Phillips curve was proved to be unstable, and therefore, not usable for policy purposes.

U.S. Phillips Curve: Inflation vs. Unemployment Rate (1/2000 – 4/2013)



Source: FRED Database
"CPIAUCSL" – Consumer Price Index for All Urban Consumers (% Change from Year Ago)
"Unemploy" – Unemployment Rate

US Phillips Curve (2000 – 2013): The data points in this graph span every month from January 2000 until April 2013. They do not form the classic L-shape the short-run Phillips curve would predict. Although it was shown to be stable from the 1860's until the 1960's, the Phillips curve relationship became unstable – and unusable for policy-making – in the 1970's.

7.8 TRADE-OFF BETWEEN INFLATION AND UNEMPLOYMENT: THE PHILLIPS CURVE

A. W. Phillips, in his research paper published in 1958, indicated a negative statistical relationship between the rate of change of money wage and the unemployment rate. It was also shown that a similar negative relationship holds for rate of change of prices (i.e., inflation) and the unemployment level. This relation is usually generalized in the Phillips Curve.

Phillips Curve drawn in Fig. 11.8 shows that as the unemployment level rises the rate of inflation falls. Zero rate of inflation can only be achieved with a high positive rate of unemployment of, say, 5 p.c., or near-full employment situation can be attained only at the cost of high rate of inflation.

Thus, there exists a trade-off between inflation and unemployment:

The higher the inflation rate, the lower is the unemployment level.

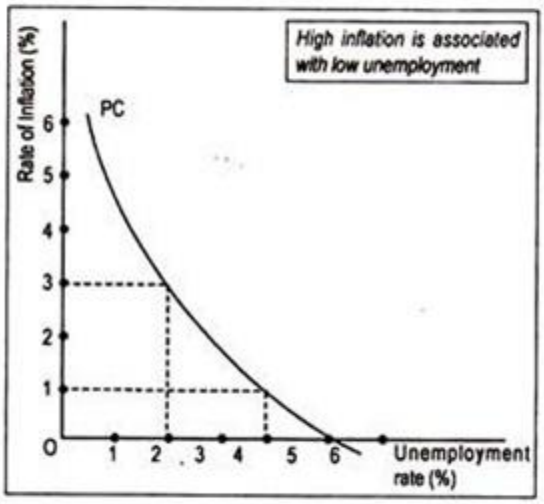


Fig. 11.8: The Phillips Curve

This Phillips Curve relation poses a dilemma to the policy makers. If the objective of price stability is to be attained, the country must accept a high unemployment rate or if the country designs to reduce unemployment, it will have to sacrifice the objective of price stability. However, towards the end of the 1960s, the stable relationship between the two began to look unstable as unemployment, wages, price all began to rise. All these developments resulted in the emergence of newer theories and, hence, economic policies.

Anyway, the policy conclusions generated by the Phillips Curve lost relevance in the 1970s and 1980s when both inflation and unemployment rose. This suggests the disappearance of trade-off between inflation and unemployment as envisaged by A.W. Phillips. Monetary economist headed by Milton Friedman challenged the concept of stable relationship between inflation and unemployment as shown in Fig. 11.8.

According to Friedman such trade-off— negative sloping Phillips Curve—can exist in the short run at least, but not in the long run. In the short run, Phillips Curve may shift either in the upward or downward direction as the relationship between these two macroeconomic variables is not stable. On the other hand, in the long run, according to Friedman, no trade-off exists between inflation and unemployment.

Regarding shifting of the Phillips Curve, Friedman considers influence of the **'expectations'** on inflation. This is called theory of

adaptive expectations—expectations that are altered or **'adapted'** to experienced events. In the short run, people make incorrect expectations of the price changes because of incomplete information. That is why a trade-off relationship emerges. But, in the long run, actual and expected price changes become equal as expectation regarding price changes tend to become rational. This rational expectations view suggests that people guess the future economic events correctly.

Thus the impact of expectations, whether adaptive or rational, has an important bearing on the relationship between inflation and unemployment rate. It is because of expectation, Friedman argues, that there is no trade-off between inflation and unemployment in the long run.

To explain Friedman's long run Phillips curve, we need to learn the concept of **'natural rate of unemployment'**. Unemployment is **'natural'** when some people do not want to work at the going wage rate or their services are no longer required. Long run Phillips Curve has been shown in Fig. 11.9.

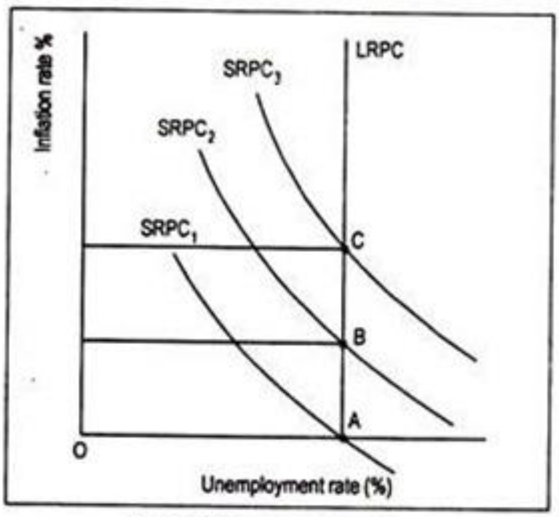


Fig. 11.9: SR and LR Phillips Curve

In this Figure, OA—the **'natural rate unemployment'**—is associated with zero inflation. The curve $SRPC_1$ is the short run Phillips Curve showing low or zero expected inflation. For obvious reasons, $SRPC_3$ describes high expected inflation. As people's expectations regarding future price level changes, short run Phillips Curve shifts upwards showing trade-offs between inflation and unemployment.

Since, in the long run, expected inflation matches with the actual inflation, the long run Phillips Curve LRPC becomes vertical at the **'natural rate of unemployment'**. It follows then that, in the long run there is no trade-off. In the long run any rate of inflation can occur with a natural rate of unemployment or the **'non- accelerating-inflation rate of unemployment'** (NAIRU).

7.9 SELF-ASSESSMENT QUESTIONS

Part – A

18. Define the term inflation?
19. Write any two weakness of Hayek's theory.

Part – B

17. What are the types of inflation?
18. What is meant by walking inflation?
19. Write a note on effects of inflation?
20. Write a short note natural rate of unemployment.
21. Briefly explain the concept of Samelson-solow model.

Part – C

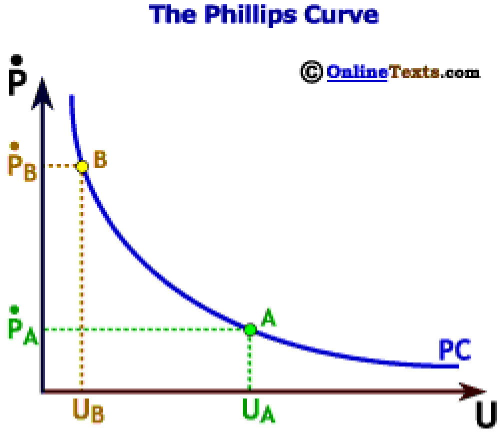
8. Illustrate the Phillips curve with diagram.
9. Discuss the theories of inflation.

UNIT – VIII: THE PHILLIPS CURVE

Contents

8.1 INTRODUCTION

The Phillips curve is a graph illustrating the relationship between inflation and the unemployment rate. The Phillips curve is a dynamic representation of the economy; it shows how quickly prices are rising through time for a given rate of unemployment. The relationship between inflation and unemployment depends upon the time frame. The short-run Phillips curve, illustrated in the figure titled **"The Phillips Curve"**, shows that the relationship between the inflation rate ($\dot{P}$) and unemployment is negative. When inflation rises, unemployment falls and vice versa.



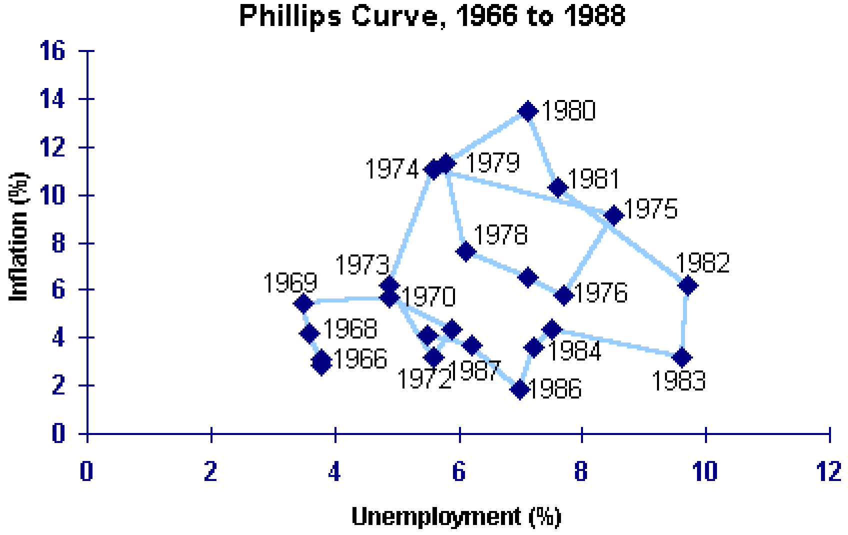
This relationship helps to explain the adage "there is no good news in economics." When one side of the economy is doing well, the other side tends to do poorly. For example, if unemployment is low, inflation tends to be relatively high. Journalists often focus on the parts of the economy doing poorly. Because of the relationship represented in the Phillips curve, economists in the late 1950s and 1960s thought

that all the Federal Reserve or government had to do was to pick the point on the short-run Phillips curve that they wanted the economy to be on. If they wanted to have less unemployment and operate, for example, at point B on the graph instead of point A, then they had to live with more inflation. This simplistic notion turned out to be false in the 1970s, forcing economists to rethink the whole notion of the Phillips curve.

8.2 BREAKDOWN OF THE SHORT-RUN PHILLIPS CURVE

In the 1970s and early 1980s the short-run relationship between inflation and unemployment seemed to break down. As the figure titled "Phillips Curve, 1966 to 1988" illustrates, inflation was often high even while unemployment was high. Between 1973 and 1974 and again between 1979 and 1980, both inflation and unemployment increased. Rather than approximating a straight line, the Phillips curve seemed to spiral clockwise. Standard Keynesian economics could not explain why the Phillips curve had gone haywire. Did the economy fundamentally change or was there something missing from the theory that needed to be incorporated?

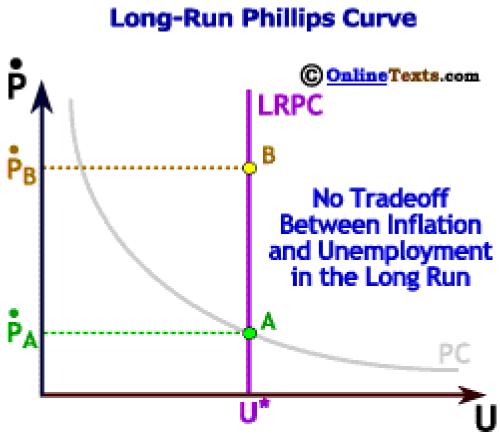
Economists were able to salvage the Phillips curve by realizing that a significant difference exists between the short-run and long-run relationship between inflation and unemployment.



8.3 THE LONG-RUN PHILLIPS CURVE

Most economists now agree that in the long run there is *no tradeoff* between inflation and unemployment. Since in the long run the economy produces at potential output (Y_P)--the point at which the

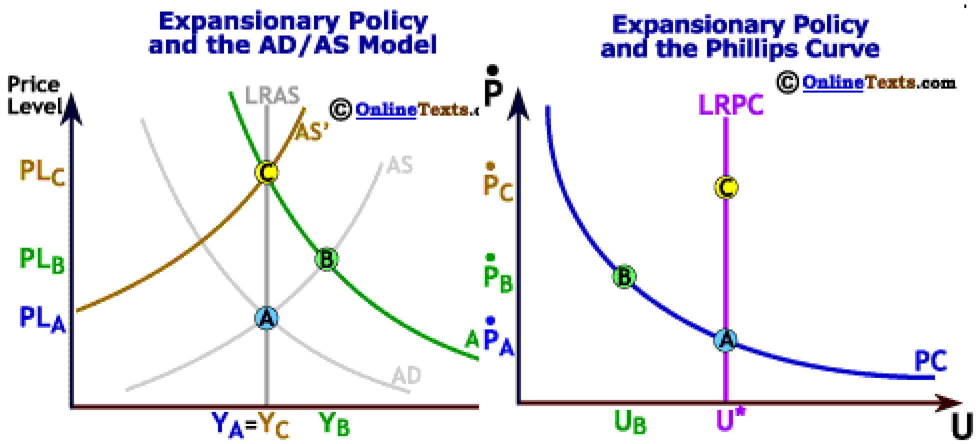
unemployment rate is at the natural rate--the long-run Phillips curve is simply a vertical line at the natural rate of unemployment, U*. As the figure titled **"Long-Run Phillips Curve"** illustrates, any level of inflation is consistent with the natural rate of unemployment. For example, at point A the unemployment rate is at U* and the inflation rate is $\dot{P}_A$. At point B, the unemployment rate is U* while the inflation rate increases to $\dot{P}_B$. No tradeoff exists between inflation and unemployment in the long run.



8.4 AGGREGATE DEMAND SHIFTS AND THE PHILLIPS CURVE

We can "explain" both the short-run and long-run Phillips curves by using the Aggregate Demand/Aggregate Supply model.

First, let us look at the short-run relationship between inflation and unemployment. We begin at point A in the left-hand chart titled **"Expansionary Policy and the AD/AS Model"**, where the economy is at potential output Y_P. Because the economy is at potential output, the unemployment rate in the Phillips curve--plotted in the right-hand chart titled **"Expansionary Policy and the Phillips Curve"**) is U*, the natural rate of unemployment, and the inflation rate is $\dot{P}_A$.



Suppose that the Aggregate Demand curve shifts to the right for any reason, say the result of expansionary fiscal or monetary policy. This expansionary policy increases the price level (from PL_A to PL_B) and output (from Y_A to Y_B)in the Aggregate Demand/Aggregate Supply model such that the economy moves from point A to point B in the left-hand figure. In the Phillips curve plotted in the right-hand figure, the higher price level corresponds with higher inflation, and the higher level of output means that more people are working, so unemployment falls. The economy moves along the Phillips curve in the right-hand chart from point A to point B.

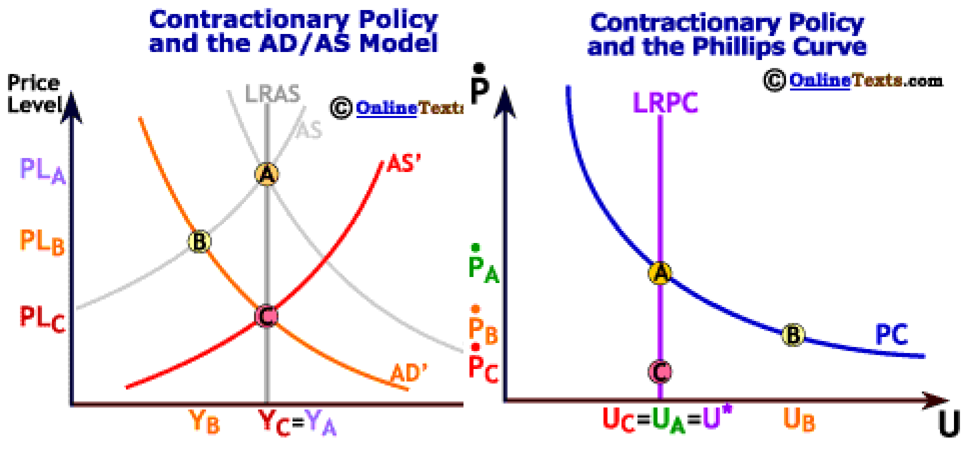
This story leads to an important generalization. Any factor that *shifts* the Aggregate Demand curve, moves the economy *along* the short-run Phillips curve. When the Aggregate Demand curve shifts to the right, the economy moves up and to the left on the short-run Phillips curve because the price level rises corresponding with a rise in inflation, while the level of output increases, which decreases unemployment. Conversely, when the Aggregate Demand curve shifts to the left, the economy moves down and to the right on the short-run Phillips curve.

Point B in both charts cannot be a long-run equilibrium since the economy is not at potential output nor at full employment. The high level of output (relative to potential output) eventually increases wages as workers become more difficult to find and employ. This increase in input costs shifts to the left the Aggregate Supply curve in the left-hand chart to point C. As the price level rises to PL_C, the level of output returns to Y_P, so the economy's level of unemployment must again be U^*. In the right-hand chart of the Phillips curve, the economy moves from point B to point C, reflecting the higher inflation and the higher unemployment. Point C in both charts is a long-run equilibrium.

Observe points A and C in the right-hand chart. The unemployment rate is identical but the rate of inflation at point C is much higher than at point A. This transition demonstrates the principle behind long-run Phillips curve such that in the long-run there is no tradeoff between inflation and unemployment.

The figures below titled **"Contractionary Policy and the AD/AS Model"** and **"Contractionary Policy and the Phillips Curve"** illustrate exactly the same concepts, but they describe the economy's response to a leftward shift in the Aggregate Demand curve. Both charts begin at point A, points in which the economy is in a long-run equilibrium.

The leftward shift of the Aggregate Demand curve decreases the price level and output, moving the short-run equilibrium to point B in the left-hand chart. As a consequence, the economy experiences lower inflation and higher unemployment, represented by the movement from point A point B in the right-hand chart. In the long run, the Aggregate Supply curve shifts to the left in the left-hand chart as wages decline in response to the excess unemployment. Eventually the economy moves to point C, again a long-run equilibrium. Relative to point A, the economy has the same level of output but a lower price level (PL_C versus PL_A). We illustrate this scenario by a move along the Phillips curve from point B to point C in the right-hand chart. Points A and C each show the economy at full employment (U*), however, point C has a lower rate of inflation than point A.



8.5 THE ROLE OF EXPECTATIONS

The short-run trade-off between inflation and unemployment is thought to work because people have an idea of what inflation expectations are going to be, and those expectations change slowly. When the Aggregate Demand curve shifts to the right, prices and

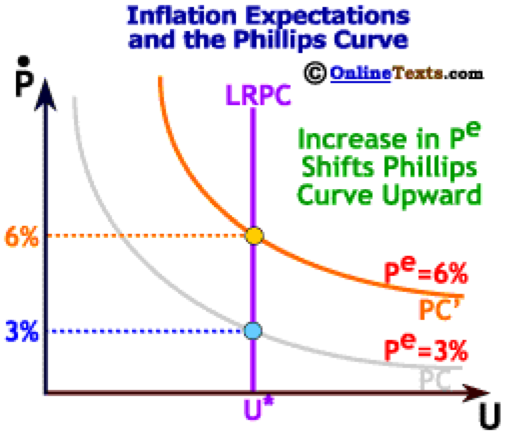
output increase. This shift increases inflation and lowers unemployment. Firms respond to this situation by attempting to hire workers. Workers view the wage offered as "good" since they do not expect that prices will rise also.

But in the long-run, workers learn that inflation has risen and they are no longer happy with their wage, so they increase their inflation expectations. Workers demand larger increases in wages which forces firms to lay off some workers until the economy arrives back at the natural rate of unemployment.

We can express the Phillips curve as an equation in the following manner:

$$\dot{P} = b(U^* - U) + \dot{P}^e$$

where $\dot{P}^e$ is the expected rate of inflation based upon inflation expectations, b is a constant greater than zero reflecting the inverse relationship between inflation and unemployment, U is the current unemployment rate, and U* is the natural rate of unemployment.



For example, suppose that $\dot{P}^e$=3%, b=0.5, U*=5% and U=4.0%. From these parameters, we know that

$\dot{P}$ = 0.5(5% - 4%) + 3%, or $\dot{P}$ = **3.5%**.

Note that in the long-run

U*=U, so $\dot{P}$ =(bx0)+ $\dot{P}^e$, therefore $\dot{P} = \dot{P}^e$.

If the economy's unemployment rate were at the natural rate of unemployment, the inflation rate would be 3% because $\dot{P}$ = 0.5(5% - 5%) + 3% = **3.0%**.

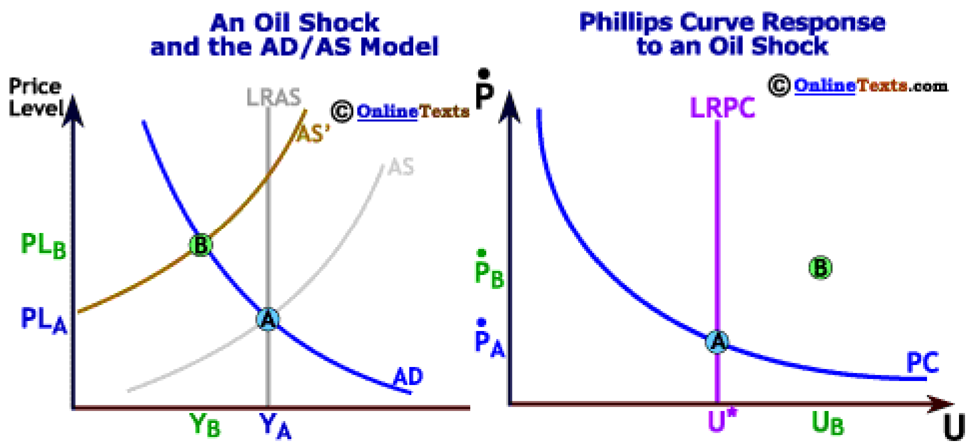
The long-run Phillips curve equation suggests that the inflation rate is entirely determined by inflation expectations. As the figure titled **"Inflation Expectations and the Phillips Curve"** illustrates, when inflation expectations rise, the Phillips curve shifts upward. In

particular, when inflation expectations rise from 3 per cent to 6 per cent, the short-run Phillips curve shifts upward until the inflation rate is 6 per cent when the economy is at the natural rate of unemployment.

Now we can understand the differences between the short-run and long-run Phillips curves. In the short run, an increase in Aggregate Demand does move the economy up to the left *along* the short-run Phillips curve. Output and inflation increase while unemployment decreases. Over the longer term, however, inflation expectations increase and workers no longer work the extra hours because they realize that real wages have not increased with the increase in prices. Output returns to the same level as before but inflation is higher because it is built into the system in terms of higher inflation expectations. The long run Phillips curve, therefore, is vertical.

8.6 SHIFTS IN THE AS CURVE

When the Aggregate Supply curve shifts, we can get very different results in the Phillips curve. For example, let us take the case of an oil shock. As we see in the left-hand chart titled **"An Oil Shock and the AD/AS Model"**, an oil shock shifts the Aggregate Supply curve to the left and the result is *stagflation*--a rise in both inflation *and* unemployment. On the Phillips curve plotted in the right-hand chart titled **"Phillips Curve Response to an Oil Shock"**, the oil shock produces a movement to the northeast of point A as both unemployment and inflation increase.



Often in response to a severe negative supply shock (such as an oil shock), inflation expectations rise quickly and the short-run Phillips curve shifts upward. Even after the economy's move northeast on the Phillips curve, policy makers are stuck with the short-run tradeoff between inflation and unemployment. If policy is contractionary to lower inflation, unemployment will rise even further. If policy is expansionary to eliminate the excess unemployment, inflation will rise

even higher. In the long run the economy will end up back on the long-run Phillips curve with a high rate of inflation. What should the Federal Reserve do with regards to monetary policy in this scenario?

In the late 1970s the Federal Reserve faced just this decision. There is no good alternative for the Fed. Either they alleviate unemployment and live with higher inflation, or they cause a large recession and eliminate high inflation. The Fed opted for the latter which led to a deep recession in the United States. Unemployment peaked above 10 percent in the early 1982. However, in the long run (about six years after the 1982 recession), the economy had 3 to 4 percent inflation and was back to the natural rate of unemployment.

The overall point is that a leftward shift in the Aggregate Supply curve does not move the economy along the short-run Phillips curve, but it moves the economy to a point that is northeast of its present state. If inflation expectations increase, the Phillips curve shifts upward. Of course, a *positive* supply shock can shift the Phillips curve down as inflation expectations fall. Once either of these things happens however, the policy makers are still faced with the same short-run trade-off between inflation and unemployment.

8.7 SELF-ASSESSMENT QUESTIONS

Part – A

20. Define the term Phillip curve?

Part – B

22. What is short run Phillips curve?
23. Explain briefly long run Phillips curve.

Part – C

10. Illustrate the Phillips curve with diagram.
11. Discuss the theories of inflation.

UNIT-IX: BALANCE OF PAYMENT (BOP)

Contents

9.1 INTRODUCTION

Balance Of Payment (BOP) is a statement which records all the monetary transactions made between residents of a country and the rest of the world during any given period. This statement includes all the transactions made by/to individuals, corporates and the government and helps in monitoring the flow of funds to develop the economy. When all the elements are correctly included in the BOP, it should sum up to zero in a perfect scenario. This means the inflows and outflows of funds should balance out. However, this does not ideally happen in most cases.

BOP statement of a country indicates whether the country has a surplus or a deficit of funds i.e when a country’s export is more than its import, its BOP is said to be in surplus. On the other hand, BOP deficit indicates that a country’s imports are more than its exports. Tracking the transactions under BOP is something similar to the double entry

system of accounting. This means, all the transaction will have a debit entry and a corresponding credit entry.

9.2 REASONS FOR BALANCE OF PAYMENT IS VITAL FOR A COUNTRY

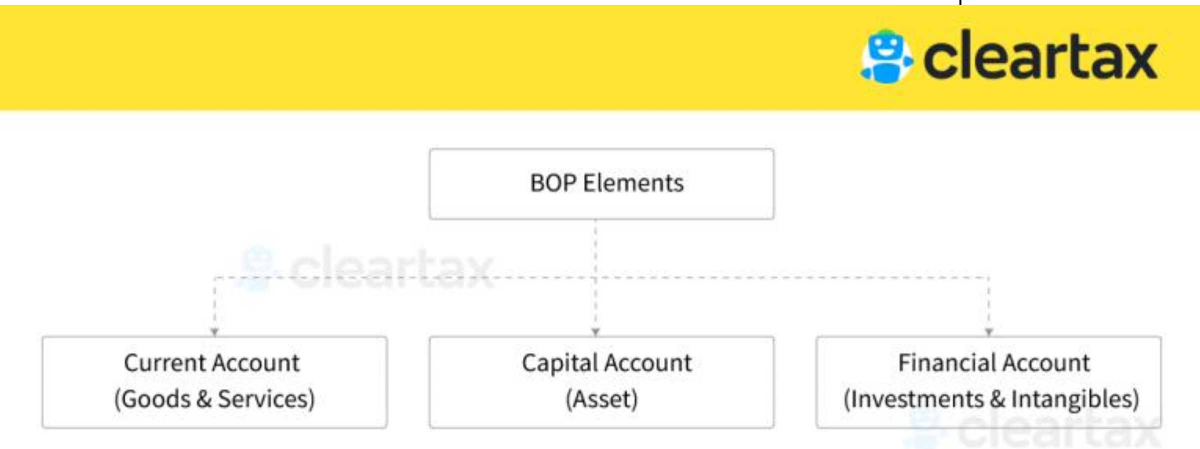
A country's BOP is vital for the following reasons:

- BOP of a country reveals its financial and economic status.
- BOP statement can be used as an indicator to determine whether the country's currency value is appreciating or depreciating.
- BOP statement helps the Government to decide on fiscal and trade policies.
- It provides important information to analyze and understand the economic dealings of a country with other countries.

By studying its BOP statement and its components closely, one would be able to identify trends that may be beneficial or harmful to the economy of the county and thus, then take appropriate measures.

9.3 COMPONENTS OF BALANCE OF PAYMENT

There are three components of balance of payment viz current account, capital account, and financial account. The total of the current account must balance with the total of capital and financial accounts in ideal situations.



9.3.1 Current Account

The current account is used to monitor the inflow and outflow of goods and services between countries. This account covers all the receipts and payments made with respect to raw materials and manufactured goods. It also includes receipts from engineering, tourism, transportation, business services, stocks, and royalties from patents and copyrights. When all the goods and services are combined, together they make up to a country's Balance Of Trade (BOT).

There are various categories of trade and transfers which happen across countries. It could be visible or invisible trading, unilateral transfers or other payments/receipts. Trading in goods between countries are referred to as visible items and import/export of services (banking, information technology etc) are referred to as invisible items. Unilateral transfers refer to money sent as gifts or donations to residents of foreign countries. This can also be personal transfers like – money sent by relatives to their family located in another country.

9.3.2 Capital Account

All capital transactions between the countries are monitored through the capital account. Capital transactions include the purchase and sale of assets (non-financial) like land and properties. The capital account also includes the flow of taxes, purchase and sale of fixed assets etc by migrants moving out/in to a different country. The deficit or surplus in the current account is managed through the finance from capital account and vice versa.

There are 3 major elements of capital account:

- Loans & borrowings – It includes all types of loans from both the private and public sectors located in foreign countries.
- Investments – These are funds invested in the corporate stocks by non-residents.
- Foreign exchange reserves – Foreign exchange reserves held by the central bank of a country to monitor and control the exchange rate does impact the capital account.

9.3.3 Financial Account

The flow of funds from and to foreign countries through various investments in real estates, business ventures, foreign direct investments etc is monitored through the financial account. This account measures the changes in the foreign ownership of domestic assets and domestic ownership of foreign assets. On analyzing these changes, it can be understood if the country is selling or acquiring more assets (like gold, stocks, equity etc).

Illustration

If for the year 2018 the value of exported goods from India is Rs. 80 lakhs and the value of imported items to India is 100 lakhs, then India has a trade deficit of Rs. 20 lakhs for the year 2018.

BOP statement acts as an economic indicator to identify the trade deficit or surplus situation of a country. Analyzing and understanding the BOP of a country goes beyond just deducting the

outflows of funds from inflows. As mentioned above, there are various components of BOP and fluctuations in these accounts which provide a clear indication about which sector of the economy needs to be developed.

9.4 BALANCE OF PAYMENTS EQUILIBRIUM:

Before we analyse the conditions of disequilibrium, we would like to explain what is meant by equilibrium balance of payments.

"Equilibrium is that state of the balance of payments over the relevant time period which makes it possible to sustain an open economy without severe unemployment on a continuing basis".

The essentials in this definition are:

(a) Relevant time period,
(b) Open-ness of economy (i.e., no undue restrictions on imports),
(c) Absence of unemployment, and
(d) Continuing basis of the equilibrium (i.e.; it is capable of being sustained).

The period is generally one year. Thus, seasonal inequality between exports and imports is not a sign of disequilibrium. When the balance of payments of a country is in equilibrium, the demand for domestic currency is equal to its supply.

The demand and supply situation is thus neither favourable nor unfavorable. If the balance of payments moves against a country, adjustments must be made by encouraging exports of goods, services or other forms of exports, or by discouraging imports of all kinds. No country can have a permanently unfavorable balance of payments, though it is possible—and is quite common for some countries—to have a permanently un-favourable balance of trade. Total liabilities and total assets of nations, as of individuals, must balance in the long run.

This does not mean that the balance of payment of a country should be in equilibrium individually with every other country with which she has trade relations. This is not necessary nor is it the case in the real world. Trade relations are multilateral. India, for instance, may have an active (i.e. surplus) balance of payments with the United States and passive balance with the United Kingdom and/or other countries. But each country, in the long run, cannot receive more value than she has exported to other countries taken together.

Equilibrium in the balance of payments, therefore, is a sign of the soundness of a country's economy. But disequilibrium may arise either for short or long periods. A continued disequilibrium indicates that the country is heading towards economic and financial bankruptcy.

Every country, therefore, must try to maintain balance of payments in equilibrium.

9.5 DISEQUILIBRIUM IN THE BALANCE OF PAYMENTS:

The balance of payments 01 India for 1982-83 gives above shows a heavily adverse balance of payments on current account. When the visible and invisible exports of a country are less than all her imports (or the imports exceed the exports) over a long period and the difference is big, steps have to be taken to bridge the gap. A number of methods are used.

They are:

Improving the balance of trade through import restrictions and measures of export promotion. Since balance of payments becomes adverse chiefly on account of excess of imports over exports, the most urgent steps are to be taken in this direction. A country having an adverse balance of payments must to check imports, or to stimulate exports, or do both. Imports can be checked either by total prohibition, or by levying import duties, or by a quota system.

Another method is adopting of measures of import substitutions, i.e., trying to produce in the country what it currently imports from abroad. Exports can be stimulated by measures of export promotion i.e. granting bounties or other concessions to industrialists and exporters.

9.6 DEFLATION:

Another method is deflation. Under this method, total money income in the economy is sought to be reduced, so that the aggregate demand in the country falls. As a result, the people tend to import less and their demand for home-produced goods too becomes less, releasing more of them for exports.

Owing to a fall in aggregate demand, prices also fall, so that the country becomes a good market to buy from and a bad market to sell in. In this way, imports get discouraged and exports are stimulated, thus correcting the adverse balance of payments. But deflation is not a healthy method, because the reduction of money incomes hits business, trade and industry hard and brings about depression and unemployment.

9.7 EXCHANGE CONTROL:

Sometimes the adoption of any of the above methods is not "considered desirable. It is feared that the depreciation may lead to retaliatory depreciation by other countries. Devaluation is supposed to damage the prestige of a country. Deflation brings in its wake

disastrous consequences in the form of depression and widespread unemployment.

It may, therefore, be considered necessary to avoid these methods and instead exchange control adopted. Under a system of exchange Control all exporters are asked to surrender their claims on foreign currencies to the central bank which pays in return home currency, which the exporters really want.

This available foreign exchange is rationed out by the central bank among me needed importers of the essential commodities. Thus, imports are restricted to the foreign exchange available. There is no danger of more goods being imported than exported.

9.8 DEVALUATION:

A very common method of correcting an adverse balance of payments is the devaluation of the home currency. The devalued currency falls in value against foreign currencies so that the foreigners have to pay less in terms of their own currencies for our goods.

The importers in the country, on the other hand, have now to pay more in terms of the devalued currency for foreign goods. Hence, they (i.e., foreigners) are induced to import more from such a country. Thus her imports decrease and exports increase, and the balance of payments is corrected. For example, India, following the U.K., devalued her currency in terms of the dollar in September 1949. Her trade balance had been very unfavorable.

There used to be a big gap between her exports and imports. After the devaluation, however, her balance of payments was set right. In June 1966, again, India had to devalue the rupee. This resulted in some improvement in the balance of payments position.

The success of devaluation in improving the balance of trade, and through it the balance of payments depends upon the demand elasticity's of imports and exports of the devaluing country. In other words, an improvement in the balance of trade will depend upon whether the demand for imports and exports is elastic or inelastic. Devaluation makes the imports of the devaluing country costlier than before and in case her demand for imports is inelastic, a higher amount will be spent for the same imports, thereby worsening her balance of trade.

Similarly, if her export demand is inelastic, then, after devaluation, lesser amount will be spent by the foreigners thereby affecting adversely the balance of payments of the devaluing country. However, if her demand for exports is elastic then with a fall in the

prices of the exports as a result of devaluation, more will be purchased by the foreigners, which, in turn, will help in restoring the equilibrium in her balance of payments. Likewise, if her demand for imports is elastic, then the imports of the country will be significantly reduced by devaluation, which in turn would improve the balance of payments of the devaluing country.

The success of devaluation in improving the balance of trade also depends on the reactions of her trading partners. If the trading partners retaliate, then devaluation will not make any impact on the imports or exports of the devaluing country, even though her demand of imports and exports may be elastic.

9.9 CURRENCY CRISES

Since the early 1990s, there have been several instances of currency crises. These are a sudden and drastic devaluation in a nation's currency matched by volatile markets and a lack of faith in the nation's economy. A currency crisis is sometimes predictable and is often sudden. It may be precipitated by governments, investors, central banks, or any combination of actors. But the result is always the same: The negative outlook causes wide-scale economic damage and a loss of capital. In this article, we explore the historical drivers of currency crises and uncover their causes.

9.9.1 KEY TAKEAWAYS

- A currency crisis involves the sudden and steep decline in the value of a nation's currency, which causes negative ripple effects throughout the economy.
- Unlike a currency devaluation as part of a trade war, a currency crisis is not a purposeful event and is to be avoided.
- Central banks and governments can intervene to help stabilize a currency by selling off reserves of foreign currency or gold, or by intervening in the forex markets.

A currency crisis is brought on by a sharp decline in the value of a country's currency. This decline in value, in turn, negatively affects an economy by creating instabilities in exchange rates, meaning one unit of a certain currency no longer buys as much as it used to in another currency. To simplify the matter, we can say that, from a historical perspective, crises have developed when investor expectations cause significant shifts in the value of currencies.

But a currency crisis—such as hyperinflation—is often the result of a shoddy real economy underlying the nation's currency. In other words, a currency crisis is often the symptom and not the disease of greater economic malaise.

9.9.2 Fighting a Currency Crisis

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Central banks are the first line of defence in maintaining the stability of a currency. In a fixed exchange rate regime, central banks can try to maintain the current fixed exchange rate peg by dipping into the country's foreign reserves, or intervening in the foreign exchange markets when faced with the prospect of a currency crisis for a floating-rate currency regime.

When the market expects devaluation, downward pressure placed on the currency can be offset in part by an increase in interest rates. In order to increase the rate, the central bank can lower the money supply, which in turn increases demand for the currency. The bank can do this by selling off foreign reserves to create a capital outflow. When the bank sells a portion of its foreign reserves, it receives payment in the form of the domestic currency, which it holds out of circulation as an asset.

Central banks cannot prop up the exchange rate for prolonged periods due to the resulting decline in foreign reserves as well as political and economic factors such as rising unemployment. Devaluing the currency by increasing the fixed exchange rate also results in domestic goods being cheaper than foreign goods, which boosts demand for workers and increases output. In the short run, devaluation also increases interest rates, which must be offset by the central bank through an increase in the money supply and an increase in foreign reserves. As mentioned earlier, propping up a fixed exchange rate can eat through a country's reserves quickly, and devaluing the currency can add back reserves.

Investors are well aware that a devaluation strategy can be used, and can build this into their expectations—much to the chagrin of central banks. If the market expects the central bank to devalue the currency—and thus increase the exchange rate—the possibility of boosting foreign reserves through an increase in aggregate demand is not realized. Instead, the central bank must use its reserves to shrink the money supply which increases the domestic interest rate.

9.9.3 Causes of Currency Crisis

Investors often attempt to withdraw their money en masse if there is an overall erosion in confidence of an economy's stability. This is referred to as capital flight. Once investors sell their domestic currency-denominated investments, they convert those investments into foreign currency. This causes the exchange rate to get even worse,

resulting in a run on the currency, which can then make it nearly impossible for the country to finance its capital spending. Currency crisis predictions involve the analysis of a diverse and complex set of variables. There are a couple of common factors linking recent crises:

- The countries borrowed heavily (current account deficits)
- Currency values increased rapidly
- Uncertainty over the government's actions unsettled investors

Currency Crisis Examples

Let's take a look at a few crises to see how they played out for investors.

Latin American Crisis of 1994

On Dec. 20, 1994, the Mexican peso was devalued. The Mexican economy had improved greatly since 1982 when it last experienced upheaval, and interest rates on Mexican securities were at positive levels.

Several factors contributed to the subsequent crisis:

- Economic reforms from the late 1980s—which were designed to limit the country's oft-rampant inflation—began to crack as the economy weakened.
- The assassination of a Mexican presidential candidate in March of 1994 sparked fears of a currency sell-off.
- The central bank was sitting on an estimated $28 billion in foreign reserves, which were expected to keep the peso stable. In less than a year, the reserves were gone.
- The central bank began converting short-term debt, denominated in pesos, into dollar-denominated bonds. The conversion resulted in a decrease in foreign reserves and an increase in debt.
- A self-fulfilling crisis resulted when investors feared a default on debt by the government.

When the government finally decided to devalue the currency in December 1994, it made some major mistakes. It did not devalue the currency by a large enough amount, which showed that while still following the pegging policy, it was unwilling to take the necessary painful steps. This led foreign investors to push the peso exchange rate drastically lower, which ultimately forced the government to increase domestic interest rates to nearly 80%. This took a major toll on the country's gross domestic product (GDP), which also fell. The crisis was finally alleviated by an emergency loan from the U.S.

Asian Crisis of 1997

Southeast Asia was home to the tiger economies—including Singapore, Malaysia, China, and South Korea—and the Southeast Asian crisis. Foreign investments poured in for years. Underdeveloped economies were experiencing rapid rates of growth and high levels of exports. The rapid growth was attributed to capital investment projects, but the overall productivity did not meet expectations. While the exact cause of the crisis is disputed, Thailand was the first to run into trouble.

Much like Mexico, Thailand relied heavily on foreign debt, causing it to teeter on the brink of illiquidity. Real estate dominated investment but was inefficiently managed. Huge current account deficits were maintained by the private sector, which increasingly relied on foreign investment to stay afloat. This exposed the country to a significant amount of foreign exchange risk.

This risk came to a head when the U.S. increased domestic interest rates, which ultimately lowered the amount of foreign investment going into Southeast Asian economies. Suddenly, the current account deficits became a huge problem, and a financial contagion quickly developed. The Southeast Asian crisis stemmed from several key points:

- As fixed exchange rates became exceedingly difficult to maintain, many Southeast Asian currencies dropped in value.
- Southeast Asian economies saw a rapid increase in privately-held debt, which was bolstered in several countries by overinflated asset values. Defaults increased as foreign capital inflows dropped off.
- Foreign investment may have been at least partially speculative, and investors may not have been paying close enough attention to the risks involved.

9.9.4 Lessons Learned From Currency Crises

Here are a few things to take away from these currency crises, among others:

- An economy can be initially solvent and still succumb to a crisis. Having a low amount of debt is not enough to keep policies functioning or quell negative investor sentiment.
- Trade surpluses and low inflation rates can diminish the extent at which a crisis impacts an economy, but in case of financial contagion, speculation limits options in the short run.
- Governments will often be forced to provide liquidity to private banks, which can invest in short-term debt that will require

near-term payments. If the government also invests in short-term debt, it can run through foreign reserves very quickly.

- Maintaining the fixed exchange rate does not make a central bank's policy work simply on face value. While announcing intentions to retain the peg can help, investors will ultimately look at the central bank's ability to maintain the policy. The central bank will have to devalue in a sufficient manner in order to be credible.

9.10 SELF-ASSESSMENT QUESTIONS

Part – A

21. What are the components of balance of payments?
22. What is meant by current account?
23. Define financial account.
24. Write short note currency crisis.

Part – B

24. Explain the reasons for balance of payment are vital for a country?
25. What are the major elements of capital account?
26. Explain the causes of currency crisis.

Part – C

12. Analyze the balance of payments equilibrium and disequilibrium.

UNIT-X: BUSINESS OR TRADE CYCLES IN AN ECONOMY

Contents

10.1 INTRODUCTION

Business Cycle or Trade Cycle refers to the phenomenon of cyclical booms and depression. In a business cycle there are wave like fluctuations in aggregate employment, income, output and price-level. It consists of recurring alternation of expansion and contraction in aggregate economic activity.

10.2 DEFINITION OF BUSINESS CYCLE

The term business cycle has been defined in various ways by different economists.

The important definitions are as follows:

1. Prof. Haberler has said – "The business cycle in the general sense may be defined as an alternation of period of prosperity and depression of good and bad trade."

2. In the words of W. C. Mitchell – "Business cycles are a species of fluctuations in the economic activities of organised communities. The adjective 'business' restricts the concept of

fluctuations in activities which are systematically conducted on a commercial basis. The noun "cycles" bars out fluctuations which do not recur with a measure of regularity. Prof. Mitchell thus insists upon a measure of regularity in cyclical fluctuations."

3. According to Keynes – "A trade cycle is composed of period of good trade characterised by rising prices and low unemployment percentages, altering with periods of bad trade characterised by falling prices and high unemployment percentages." Keynes has thus specified two indices, namely prices and unemployment, for measuring the upswing and down swing of the business cycles.

4. In the words of Frederic Benham "A trade cycle may be defined, rather badly as a period of prosperity followed by a period of depression. It is not surprising that economic process should be irregular trade being good at some time and bad at others."

In short the business cycle, is an alternate expansion and contraction in overall business activity, as evidenced by fluctuations in measures of aggregate economic activity such as gross product, the index of industrial production and employment and income. Generally, the cyclical fluctuations have a tendency towards simultaneous appearance in all the branches of the national economy. But sometimes they may be confined only to individual industries or individual sectors of the economy.

10.3 TYPES OF BUSINESS CYCLES:

There are five types of cycles which are as follows:

10.3.1 The Minor Cycle:

This is also known as Short Kitchin Cycle. This has gained popularity after the name of the British economist Joseph Kitchin in the year 1923. He made a research and came to this conclusion that a cycle takes place within duration of approximately 30 to 40 months.

10.3.2 The Major Cycle:

This has been emphasised as the fluctuation of business activity between successive crises. This is also known as "The Long Jugler Cycle." A French economist Clement Jugler showed that the periods of prosperity, crisis and liquidation followed each other always within a span of the average of nine and half years.

10.3.3 The Very Long Period Cycle:

This is also known as Kondratieff Cycle. This was propounded by N. D. Kondratieff the Russian economist in the year 1925. He has written that there are longer waves of cycles of more than fifty years duration.

10.3.4 Kuznets Cycle:

This type of business cycle was propounded by the famous American economist Professor Simon Kuznet. His view was that the secular swing of the cycle generally occurs in between 7 to 11 years and this can show effect within that period.

10.3.5 Building Cycles:

Such cycles are associated with the name of two American economists namely Warren and Pearson. They expressed their views in World Prices and the Building Industry book in the year 1937. Their view was that business cycle occurs in the duration of an average of 18 years and the cost of such cycle has major effect on building construction and on the industrial development.

10.4 PHASES OF BUSINESS CYCLES:

Business cycles have shown distinct phases the study of which is useful to understand their underlying causes. These phases have been called by different names by different economists.

Generally, the following phases of business cycles have been distinguished:

1. Expansion (Boom, Upswing or Prosperity)
2. Peak (upper turning point)
3. Contraction (Downswing, Recession or Depression)
4. Trough (lower turning point)

The four phases of business cycles have been shown in Fig. 13.1 where we start from trough or depression when the level of economic activity i.e., level of production and employment is at the lowest level. With the revival of economic activity the economy moves into the expansion phase, but due to the causes explained below, the expansion cannot continue indefinitely, and after reaching peak, contraction or downswing starts. When the contraction gathers momentum, we have a depression. The downswing continues till the lowest turning point which is also called trough is reached.

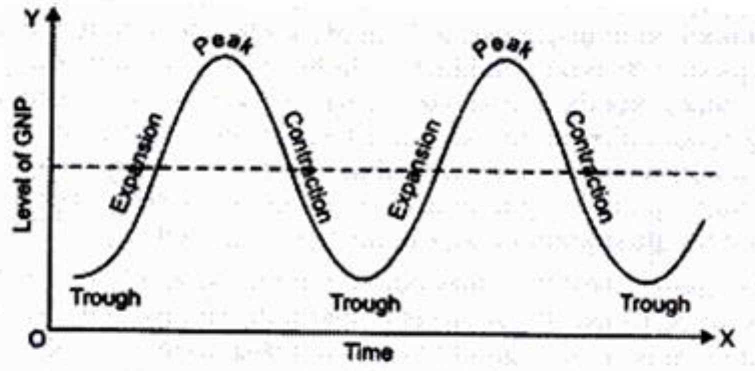


Fig. 13.1. ***Four Phases of Business Cycles without Growth Trend***

In this way cycle is complete. However, after remaining at the trough for some time the economy revives and again the new cycle starts.

Haberler in his important work on business cycles has named the four phases of business cycles as:

(1) Upswing,

(2) Upper turning point,

(3) Downswing, and

(4) Lower turning point.

There are two types of patterns of cyclic changes. One pattern is shown in Fig. 13.1 where fluctuations occur around a stable equilibrium position as shown by the horizontal line. It is a case of dynamic stability which depicts change but without growth or trend.

The second pattern of cyclical fluctuations is shown in Fig. 13.2 where cyclical changes in economic activity take place around a growth path (i.e., rising trend). J.R. Hicks in his model of business cycles explains such a pattern of fluctuations with long-run rising trend in economic activity by imposing factors such as autonomous investment due to population growth and technological progress causing economic growth on the otherwise stationary state. We briefly explain below various phases of business cycles.

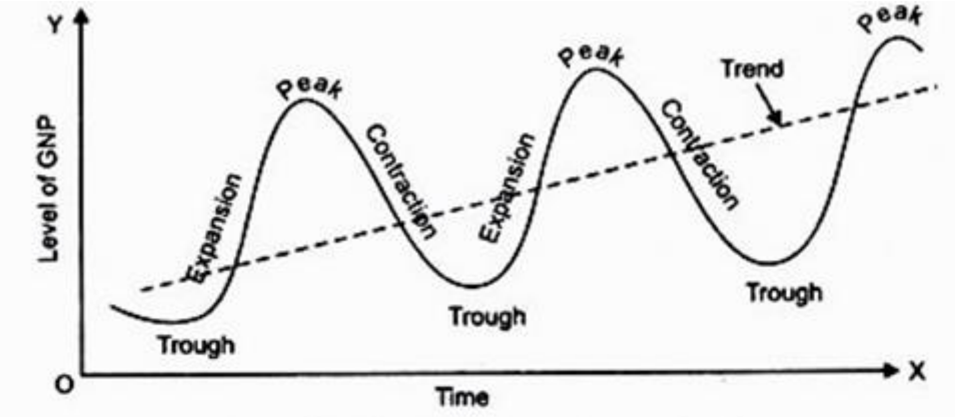


Fig. 13.2. *Cycles with Trend (i.e., Growth)*

10.4.1 Expansion and Prosperity:

In its expansion phase, both output and employment increase till we have full employment of resources and production is at the highest possible level with the given productive resources. There is no involuntary unemployment and whatever unemployment prevails is only of frictional and structural types.

Thus, when expansion gathers momentum and we have prosperity, the gap between potential GNP and actual GNP is zero, that is, the level of production is at the maximum production level. A good amount of net investment is occurring and demand for durable consumer goods is also high. Prices also generally rise during the expansion phase but due to high level of economic activity people enjoy a high standard of living.

Then something may occur, whether banks start reducing credit or profit expectations change adversely and businessmen become pessimistic about future state of the economy that brings an end to the expansion or prosperity phase. Economists differ regarding the possible causes of the end of prosperity and start of downswing in economic activity.

Monetarists have argued that contraction in bank credit may cause downswing. Keynes has argued that sudden collapse of expected rate of profit (which he calls marginal efficiency of capital, MEC) caused by adverse changes in expectations of entrepreneurs lowers investment in the economy. This fall in investment, according to him, causes downswing in economic activity.

10.4.2 Contraction and Depression:

As stated above, expansion or prosperity is followed by contraction or depression. During contraction, not only there is a fall in

GNP but also level of employment is reduced. As a result, involuntary unemployment appears on a large scale. Investment also decreases causing further fall in consumption of goods and services.

At times of contraction or depression prices also generally fall due to fall in aggregate demand. A significant feature of depression phase is the fall in rate of interest. With lower rate of interest people's demand for money holdings increases. There is a lot of excess capacity as industries producing capital goods and consumer goods work much below their capacity due to lack of demand.

Capital goods and durable consumer goods industries are especially hit hard during depression. Depression, it may be noted, occurs when there is a severe contraction or recession of economic activities. The depression of 1929-33 is still remembered because of its great intensity which caused a lot of human suffering.

10.4.3 Trough and Revival:

There is a limit to which level of economic activity can fall. The lowest level of economic activity, generally called trough, lasts for some time. Capital stock is allowed to depreciate without replacement. The progress in technology makes the existing capital stock obsolete. If the banking system starts expanding credit or there is a spurt in investment activity due to the emergence of scarcity of capital as a result of non-replacement of depreciated capital and also because of new technology coming into existence requiring new types of machines and other capital goods.

The stimulation of investment brings about the revival or recovery of the economy. The recovery is the turning point from depression into expansion. As investment rises, this causes induced increase in consumption. As a result industries start producing more and excess capacity is now put into full use due to the revival of aggregate demand. Employment of labour increases and rate of unemployment falls. With this the cycle is complete.

10.5 FEATURES OF BUSINESS CYCLES:

Though different business cycles differ in duration and intensity, they have some common features which we explain below:

1. Business cycles occur periodically. Though they do not show same regularity, they have some distinct phases such as expansion, peak, contraction or depression and trough. Further the duration of cycles varies a good deal from minimum of two years to a maximum of ten to twelve years.

2. Secondly, business cycles are synchronic. That is, they do not cause changes in any single industry or sector but are of all-embracing character. For example, depression or contraction occur simultaneously in all industries or sectors of the economy. Recession passes from one industry to another and chain reaction continues till the whole economy is in the grip of recession. Similar process is at work in the expansion phase, prosperity spreads through various linkages of input-output relations or demand relations between various industries, and sectors.
3. Thirdly, it has been observed that fluctuations occur not only in level of production but also simultaneously in other variables such as employment, investment, consumption, rate of interest and price level.
4. Another important feature of business cycles is that investment and consumption of durable consumer goods such as cars, houses, refrigerators are affected most by the cyclical fluctuations. As stressed by J.M. Keynes, investment is greatly volatile and unstable as it depends on profit expectations of private entrepreneurs.

   These expectations of entrepreneurs change quite often making investment quite unstable. Since consumption of durable consumer goods can be deferred, it also fluctuates greatly during the course of business cycles.
5. An important feature of business cycles is that consumption of non-durable goods and services does not vary much during different phases of business cycles. Past data of business cycles reveal that households maintain a great stability in consumption of non-durable goods.
6. The immediate impact of depression and expansion is on the inventories of goods. When depression sets in, the inventories start accumulating beyond the desired level. This leads to cut in production of goods. On the contrary, when recovery starts, the inventories go below the desired level. This encourages businessmen to place more orders for goods whose production picks up and stimulates investment in capital goods.
7. Another important feature of business cycles is that profits fluctuate more than any other type of income. The occurrence of business cycles causes a lot of uncertainty for businessmen and makes it difficult to forecast the economic conditions.

During the depression period profits may even become negative and many businesses go bankrupt. In a free market economy profits are justified on the ground that they are necessary payments if the entrepreneurs are to be induced to bear uncertainty.

8. Lastly, business cycles are international in character. That is, once started in one country they spread to other countries through trade relations between them. For example, if there is a recession in the USA, which is a large importer of goods from other countries, it will cause a fall in demand for imports from other countries whose exports would be adversely affected causing recession in them too. Depression of 1930s in USA and Great Britain engulfed the entire capital world.

10.6 SELF-ASSESSMENT QUESTIONS

Part – A

25. Define the term business cycle?
26. What is meant by minor cycle?
27. List out the phases of business cycle?

Part – B

27. Explain the types of business cycle?
28. What are the features of business cycle?

Part – C

13. Discuss the phases of business cycle with diagrammatic illustration.

UNIT-XI: MACRO ECONOMIC POLICY

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Contents

11.1 INTRODUCTION

Microeconomics and macroeconomics—the two major divisions of economics—have different objectives to be pursued. The key microeconomic goals are the efficient use of resources that are employed and the efficient distribution of output. These two goals of microeconomics are encapsulated as ‘efficiency’ and ‘equity’. But macroeconomic goals are quite different because the overall response of the economy must not match with the individual units. As macroeconomics looks at the whole, its objectives are aggregative in

character. In other words, because of different level of aggregation, these two branches of economics focuses on different economic objectives.

11.2 MACROECONOMIC POLICY OBJECTIVES:

The macroeconomic policy objectives are the following:

(i) Full employment,
(ii) Price stability,
(iii) Economic growth,
(iv) Balance of payments equilibrium and exchange rate stability, and
(v) Social objectives.

11.2.1 Full Employment:

Performance of any government is judged in terms of goals of achieving full employment and price stability. These two may be called the key indicators of health of an economy. In other words, modern governments aim at reducing both unemployment and inflation rates.

Unemployment refers to involuntary idleness of mainly labour force and other productive resources. Unemployment (of labour) is closely related to the economy's aggregate output. Higher the unemployment rate, greater the divergence between actual aggregate output (or GNP/CDP) and potential output. So, one of the objectives of macroeconomic policy is to ensure full employment.

The objective of full employment became uppermost amongst the policymakers in the era of Great Depression when unemployment rate in all the countries except the then socialist country, the USSR, rose to a great height. It may be noted here that a free enterprise capitalist economy always exhibits full employment.

But, Keynes said that the goal of full employment may be a desirable one but impossible to achieve. Full employment, thus, does not mean that nobody is unemployed. Even if 4 or 5 p.c. of the total population remain unemployed, the country is said to be fully employed. Full employment, though theoretically conceivable, is difficult to attain in a market-driven economy. In view of this, full employment objective is often translated into 'high employment' objective. This goal is desirable indeed, but 'how high' should it be? One author has given an answer in the following way; "The goal for high employment should therefore be not to seek an unemployment level of zero, but rather a level of above zero consistent with full employment at which the demand for labour equals the supply of labour. This level is called the natural rate of unemployment."

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11.2.2 Price Stability:

No longer the attainment of full employment is considered as a macroeconomic goal. The emphasis has shifted to price stability. By price stability we must not mean an unchanging price level over time. Not necessarily, price increase is unwelcome, particularly if it is restricted within a reasonable limit. In other words, price fluctuations of a larger degree are always unwelcome.

However, it is difficult again to define the permissible or reasonable rate of inflation. But sustained increase in price level as well as a falling price level produce destabilising effects on the economy. Therefore, one of the objectives of macroeconomic policy is to ensure (relative) price level stability. This goal prevents not only economic fluctuations but also helps in the attainment of a steady growth of an economy.

11.2.3 Economic Growth:

Economic growth in a market economy is never steady. These economies experience ups and downs in their performance. This objective became uppermost in the period following the World War II (1939-45). Economists call such ups and downs in the economic performance as trade cycle/business cycle. In the short run such fluctuations may exhibit depressions or prosperity (boom).

One of the important benchmarks to measure the performance of an economy is the rate of increase in output over a period of time. There are three major' sources of economic growth, viz. (i) the growth of the labour force, (ii) capital formation, and (iii) technological progress. A country seeks to achieve higher economic growth over a long period so that the standards of living or the quality of life of people, on an average, improve. It may be noted here that while talking about higher economic growth, we take into account general, social and environmental factors so that the needs of people of both present generations and future generations can be met.

However, promotion of higher economic growth is often hampered by short run fluctuations in aggregate output. In other words, one finds a conflict between the objectives of economic growth and economic stability (in prices). In view of this conflict, it is said that macroeconomic policy should promote economic growth with reasonable price stability.

11.2.4 Balance of Payments Equilibrium and Exchange Rate Stability:

From a macro- economic point of view, one can show that an international transaction differs from domestic transaction in terms of (foreign) currency exchange. Over a period of time, all countries aim at balanced flow of goods, services and assets into and out of the country. Whenever this happens, total international monetary reserves are viewed as stable.

If a country's exports exceed imports, it then experiences a balance of payments surplus or accumulation of reserves, like gold and foreign currency. When the country loses reserves, it experiences balance of payments deficit (or imports exceed exports). However, depletion of reserves reflects the unhealthy performance of an economy and thus creates various problems. That is why every country aims at building substantial volume of foreign exchange reserves.

Anyway, the accumulation of foreign exchange reserves is largely conditioned by the exchange rate the rate at which one currency is exchanged for another currency to carry out international transactions. The foreign exchange rate should be stable as far as possible. This is what one may call it external stability in price.

External instability in prices hampers the smooth flow of goods and services between nations. It also erodes the confidence of currency. However, maintenance of external stability is no longer considered as the macroeconomic policy objective as well as macroeconomic policy instrument.

It is, however, because of growing inter- connectedness and interdependence between different nations in the globalised world, the task of fulfilling this macroeconomic policy objective has become more problematic.

11.2.5 Social Objectives:

The list of objectives that we have referred here is by no means an exhaustive one; one can add more in the list. Even then we have incorporated the major ones.

Macroeconomic policy is also used to attain some social ends or social welfare. This means that income distribution needs to be more fair and equitable. In a capitalist market-based society some people get more than others. In order to ensure social justice, policymakers use macroeconomic policy instruments.

We can add another social objective in our list. This is the goal of economic freedom. This is characterised by the right of taking

economic decisions by any individual (rich or poor, high caste or low caste).

11.3 MACROECONOMIC POLICY INSTRUMENTS:

As our macroeconomic goals are not typically confined to “full employment”, “price stability”, “rapid growth”, “BOP equilibrium and stability in foreign exchange rate”, so our macroeconomic policy instruments include monetary policy, fiscal policy, income policy in a narrow sense. But, in a broader sense, these instruments should include policies relating to labour, tariff, agriculture, anti-monopoly and other relevant ones that influence the macroeconomic goals of a country. Confining our attention in a restricted way we intend to consider two types of policy instruments the two “giants of the industry” monetary (credit) policy and fiscal (budgetary) policy. These two policies are employed toward altering aggregate demand so as to bring about a change in aggregate output (GNP/GDP) and prices, wages and interest rates, etc., throughout the economy.

Monetary policy attempts to stabilise aggregate demand in the economy by influencing the availability or price of money, i.e., the rate of interest, in an economy. Monetary policy may be defined as a policy employing the central bank’s control of the supply of money as an instrument for achieving the macroeconomic goals.

Fiscal policy, on the other hand, aims at influencing aggregate demand by altering tax- expenditure-debt programme of the government. The credit for using this kind of fiscal policy in the 1930s goes to J.M. Keynes who discredited the monetary policy as a means of attaining some of the macro- economic goals—such as the goal of full employment.

As fiscal policy has come into scrutiny in terms of its effectiveness in achieving the desired macroeconomic objectives, the same is true about the monetary policy. One can see several rounds of ups and downs in the effectiveness of both these policy instruments consequent upon criticisms and counter- criticisms in their theoretical foundations.

It may be pointed out here that as there are conflicts among different macroeconomic goals, policymakers are in a dilemma in the sense that neither of the policies can achieve desired goals. Hence the need for additional policy measures like income policy, price control, etc. Further, while the objectives represent economic, social and political value judgements they do not normally enter the mainstream

economic analysis. Ultimately, policymakers and bureaucrats are blamed as trouble shooters.

11.4 INCOME POLICY

The instruments available to policymakers for supporting economic recovery seem to have been limited after the crisis, especially in developed economies. On the one hand, there is little scope for monetary policy to provide additional stimulus, as interest rates has remained at historic lows, and quantitative easing has become more difficult to defend politically. Further, the on-going deleveraging process associated to falling asset prices, made it extremely hard to revive credit to boost domestic demand. On the other hand, higher public-debt-to-**GDP** ratios have convinced many governments that they should shift to fiscal tightening.

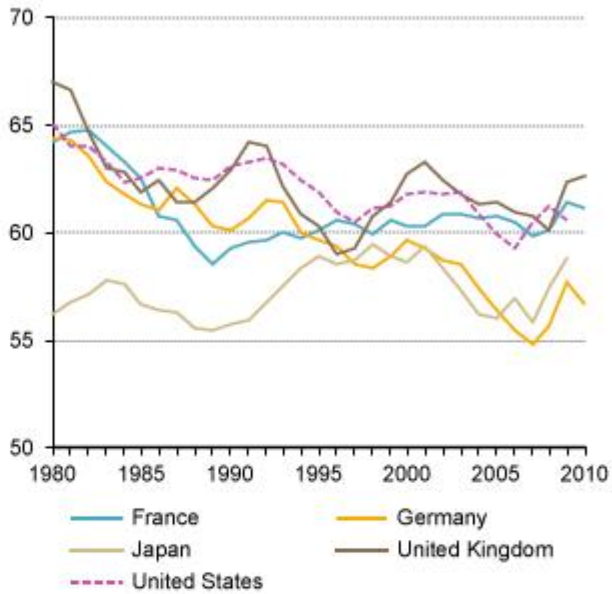
While there is more space for proactive fiscal policies than what is perceived by policymakers, in addition, there are other policy tools, such as **incomes** policy, that have been largely overlooked. These could play a strategic role in dealing with the present challenges.

In the period of intensified globalization from the early 1980s until the global crisis, the share of national income accruing to labour declined in most developed and developing countries. If real **wage** growth fails to keep pace with productivity growth, there is a lasting and insurmountable constraint on the expansion of domestic demand and employment creation. To offset insufficient domestic demand, one kind of national response has been an overreliance on external demand. Another kind of response has taken the form of compensatory stimulation of domestic demand through credit easing and increasing asset prices. However, neither of these responses offers sustainable outcomes. These are important lessons to be learned from the global crisis.

NOTES

Share of wages in national income in selected developed economies, 1980-2010

(Percentage)



Source: UNCTAD, *TDR 2011* (Chart 1.5), based on OECD, *Main Economic Indicators* database; and Lindenboim, Kennedy and Graña, 2011

Trends in income distribution since the 1980s confirm that inequalities within many developed economies have increased as globalization has accelerated. In particular, wage shares have declined slowly, but steadily over the past 30 years, with short reversals during periods of recession – particularly in 2008–2009 – when profits tend to fall more than wages. After such episodes, however, the declining trend has resumed. This trend is creating hazardous headwinds in the current recovery. As wages have decoupled from productivity growth, wage earners can no longer afford to purchase the growing output, and the resultant stagnating domestic demand is causing further downward pressure on prices and wages, thus threatening to bring about a deflationary spiral.

In most developing and transition economies, the share of wages has behaved differently for the period as a whole. That share is generally between 35 and 50 per cent of GDP – compared with approximately 60 per cent of GDP in developed economies – and it tends to oscillate significantly, owing mainly to sudden changes in real wages. In many of these economies, the share of wages in national income tended to fall between the 1980s and early 2000s, but has

started to recover since the mid-2000s, though it has not yet reached the levels of the 1990s **(Chart)**. The positive evolution of wages and the role played by incomes policies, particularly transfer programmes to the poor, have been significant factors behind the present "two-speed recovery".

In developed countries, real wages grew on average at less than 1 per cent per annum before the crisis, which is below the rate of productivity gains; they then declined during the crisis, and tended to recover very slowly in 2010. Arguably, the early move to a more contractionary fiscal policy and the relatively high levels of idle capacity and unemployment imply that the pressures for higher wages could remain subdued, thereby reducing the chances of a wages-led recovery.

In contrast, since the mid-2000s, in all developing regions and in **CIS**,real wages have been growing, in some instances quite rapidly **(Table)**. In some countries, this may represent a recovery from the steep reductions in the 1990s or early 2000s, and in others it is more than a mere recovery, as wages follow the same path as productivity gains. Even during the difficult years of 2008 and 2009, real wages did not fall in most developing countries, as had generally been the case in previous economic crises. This suggests that to some extent, recovery in developing countries was driven by an increase in domestic demand and that real wage growth has been an integral part of the economic revival.

Further, incomes policy could also be used to complement more expansionary fiscal policy in order to control prices, allowing for a more robust recovery with relatively stable prices. Subsidies to reduce the costs of basic consumption baskets for the lower income groups, which have a higher propensity to spend, and direct transfers to the less privileged in society might provide an alternative source of demand growth, helping create jobs and leading to a self-sustaining recovery.

11.5 THE NEW CLASSICAL MACROECONOMICS: PRINCIPLE, POLICY IMPLICATION AND CRITICISM

11.5.1 Introduction:

The new classical macroeconomics is an attempt to repudiate and modify Keynesian and monetarist views about the role of macroeconomic stabilisation policy in the light of the classical school of thought. The Keynesians advocate demand management policies

both fiscal and monetary to stabilise the economy. They favour active interventionist fiscal and monetary policies. They do not regard the two policies as competitive but complementary to each other. But they depend more on expansionary fiscal policy to control recessions which threaten rising unemployment with little or no growth in the economy. However, they combine deflationary fiscal policy with monetary policy to control boom and inflation.

In contrast, monetarist hold that the economy is basically stable and when disturbed by some change in basic conditions will quickly revert to its long-run growth path. They are highly critical of discretionary fiscal and monetary policies. For such policies involve long and variable time lags which can make them ineffective and destabilising. However, they advocate an annual fixed percentage growth in money supply instead of discretion in monetary policy. Friedman believes that fiscal policy does not have any potent influence on the economy except that it affects the behaviour of money. Therefore, by setting and sticking to rules and not interfering, the government can follow a sound monetary policy in which there is maximum freedom for individual initiative and enterprise. The rules help to reduce people's expectations of inflation and thus create a stable environment for investment and growth.

11.5.2 Principles of New Classical Macroeconomics:

During the late 1970s when the debate between Keynesians and monetarists stalemated, the new classical macroeconomics emerged based on classical microeconomics. It was developed by Robert Lucas, Thomas Sargent, Robert Barro and Neil Wallace in America and Patrick Minford in England.

(1) Markets Continuously Clear
(2) Rational Expectations
(3) Aggregate Supply Hypothesis

The hypotheses (1) and (3) are classical but their analysis is new. The second hypothesis on rational expectations is totally new.

Therefore, these principles constitute the New Classical Macroeconomics which are discussed below.

1. Markets Continuously Clear:

The new classical economists assume that all markets continuously clear in the economy. Prices and wages adjust instantaneously to clear markets. The economy is in a state of continuous equilibrium both in the short-run and long-run where all markets clear. The new classical differ from Keynesians and

monetarists over market clearing. According to Keynesians, markets may not clear due to slow price adjustments. So the economy may remain in a state of disequilibrium. Monetarists assume that markets have a tendency to clear. Prices and wages are fairly flexible. Therefore, the economy may be in disequilibrium temporarily in the short run and attain equilibrium in the long run. The new classical assume that markets clear instantaneously and there is no disequilibrium even in the short run. Since price and wage adjustments are almost instantaneous, all unemployment is equilibrium unemployment.

Whatever level of unemployment is found in the economy, it is the natural rate of unemployment or voluntary unemployment. An increase in the natural level of unemployment over time is the result of reluctance of people to take jobs due to lack of incentives. Fig. 1 explains the new classical labour market equilibrium. Where SS_L is the labour supply curve which is vertical (or inelastic) at ON_T labour force when wage rates are above the competitive level. DD_L is the labour demand curve. ON_T is the total labour force in the economy.

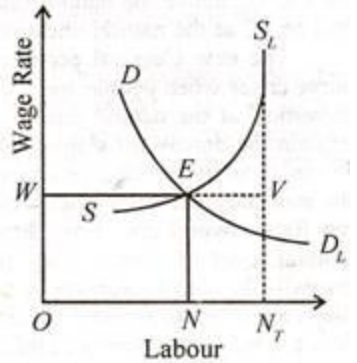


Fig. 1

The two curves intersect at E which is the market-clearing equilibrium point where ON workers are willing to work at the market wage rate ON. This is the full employment equilibrium. But NN_T (= EV) workers out of the total labour force (ON_T) are not prepared to work at the market wage rate OW. They are voluntarily unemployed. They may prefer a higher wage than the equilibrium rate or leisure or other activities, etc. to work.

2. Rational Expectations:

One of the most important principles of the new classical macroeconomics is the rational expectations hypothesis. The Ratex hypothesis, as it is called, holds that economic agents (individuals, firms, etc.) form expectations of the future values of economic variables like prices, incomes, etc. by using all the economic information available to them.

The new classical economists use Ratex to explain the Phillips curve in the inflation theory. According to them, rational expectations are not based on past rates of inflation but on the current state of the economy and policies being followed by the government. Workers and firms base their information on various forecasts made by specialists and agencies, and government announcements and reports. On the basis of such current information, they predict the rate of information.

Generally, such forecasts are wrong and what the government says is also not correct. So workers and firms base their expectations on imperfect information. It is thus on the basis of imperfect information that workers and firms make predictions which will frequently be incorrect. But such errors in predictions are random which make predictions about inflation either too low or too high. Any discrepancy between the actual and expected rate of inflation is only in the nature of random error.

Thus there is no possibility for the actual rate of unemployment to differ from the natural rate even temporarily. When people act rationally, they know that past increases in prices and the rate of change in prices have invariably been accompanied by equal proportional changes in the quantity of money. When people act on this knowledge, it leads to the conclusion that there is no trade-off between inflation and unemployment either in the short run or in the long run and the new classical Phillips curve is vertical at the equilibrium or natural rate of unemployment. The new classical short-run vertical Phillips curve is shown in Fig. 2 as PC at the natural unemployment rate U_N. If people under predict the rate of inflation (expected inflation rate is less than the actual rate), they will believe that aggregate demand has increased.

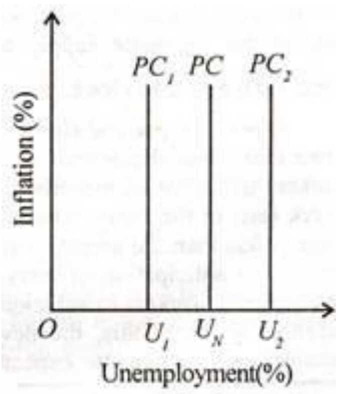


Fig. 2

As a result, output and employment rise. This shifts the short-run Phillips curve PC to the left as PC_1 because unemployment temporarily falls to U_1 below the natural rate U_N. If, on the other hand,

people over-predict the rate of inflation (expected O inflation rate is more than the actual rate), they will believe that aggregate demand has fallen, and output and employment fall.

This shifts the short- run Phillips carve PC to the right as PC_2 because unemployment temporarily rises to U_2, above the natural rate U_N. But the actual position of the short-run Phillips curve on the average will be PC at the natural unemployment rate U_N. The new classical economists also explain the downward sloping short-run Phillips curve. Such a curve arises when people are not able to correctly predict about real wages. The new classical Phillips curve is vertical at the natural rate of unemployment shown as PC in Fig. 3.

This is the true Phillips curve. To explain the downward sloping Phillips curve, called the apparent Phillips curve, we start at point A on the PC curve when the unemployment rate is 3% and the inflation rate is 4%. In order to reduce unemployment, the monetary authority unexpectedly increases the money supply to stimulate the economy. According to the Ratex hypothesis, firms have better information about prices in their own industry than about the general level of prices.

They mistakenly think that the increase in prices is due to the increase in demand for their products. As a result, they employ more workers in order to increase output. Unemployment falls to 2%. The workers also mistake the rise in prices as related to their own industry. But wages rise as the demand for labour increases and workers think that the increase in money wages is an increase in real wages when the inflation rate rises to 6%. Thus the economy moves upward from point A to B.

But soon workers and firms find that the increase in prices and wages is prevalent in most industries. Firms find that their costs have increased. Workers realise that their real wages have fallen due to rise in inflation rate to 6% and they press for increase in wages. But firms do not employ more workers. So the economy moves from point B to A which is the actual position of the short-run Phillips curve. In such a. situation, workers over-predict the 4% rate of inflation. Employment will fall as workers believe that their real wages are lower than they actually are. So they work less. Output falls as firms believe that the relative prices of their products have fallen. With fall in employment and output, the economy moves from point A to C due to an unanticipated fall in wages and prices.

Thus, points B,A,C trace out a downward-sloping apparent short- run Phillips curve PC_1 (in Fig. 3) of the new classical macroeconomics when people under-predict real wages and relative

prices. But the true short-run Phillips curve of the new classicals is always vertical like the PC curve.

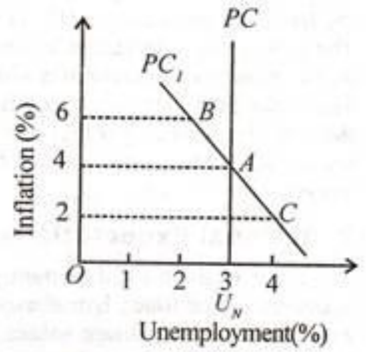


Fig. 3

3. Aggregate Supply Hypothesis:

The new classical macroeconomics incorporates the Lucas aggregate supply hypothesis based on two assumptions:

(1) Rational decisions taken by workers and firms reflect their optimising behaviour, and (2) the supply of labour by workers and output by firms depend upon relative prices. Thus the aggregate supply hypothesis is derived from optimising behaviour of workers and firms about supply of labour and goods which depend on relative prices only. We first study the labour market and then the goods market to explain the aggregate supply hypothesis.

11.5.3 The Labour Market:

Workers make decisions about work and leisure in the present with the future in mind. They also have some idea about the normal or expected real wage. If the current real wage is above the normal real wage, workers will have an incentive to work more in the present (take less leisure) in order to have more leisure (work less) in the future when the real wage is expected to be lower.

On the other hand, if the current real wage is less than the normal real wage, workers will have an incentive to take more leisure (work less) in the present, in anticipation of working more in the future when the real wage is expected to be higher. This behaviour of workers to substitute current leisure for future leisure and vice versa is known as intertemporal substitution. From this, the new classical economists infer that the short-run supply curve of labour is relatively elastic because expected changes in the real wage are temporary. But the long-run supply curve of labour is vertical because the real wage is permanent and the actual and expected price levels are the same.

In the new classical analysis, workers have incomplete information about price changes so that they mistake changes in general price level for relative changes in prices and thus change the supply of labour. This results from unanticipated shocks such as monetary disturbances which change aggregate demand. The aggregate demand and supply analysis is used to illustrate the effects of unanticipated changes in aggregate demand on the real wage level and employment. In Fig. 4, $LRAS_L$ is the long-run aggregate supply curve of labour and $SRAS_L$ is the short-run supply curve of labour. AD is the aggregate demand curve.

The labour market is initially in equilibrium at points where the curves $LRAS_L$, $SRAS_L$ and AD intersect. Here the real wage rate W/P is fully anticipated and OL numbers of workers are employed. Suppose the monetary authority announces its intention to increase the money supply. This will have the effect of increasing aggregate demand. This shifts rightward the AD curve to AD_1. If the shift in aggregate demand is anticipated, rational agents will negotiate for higher real wage immediately on the basis of the expectation of rise in the price level. The $SRAS_L$ curve will shift upward to $SRAS_{L1}$. The real wage rate will move straight from W/P to W/P_2 on the vertical $LRAS_L$ curve and the labour market will move from A to C where the curves AD_1, $SRAS_{L1}$ and $LRAS_L$ intersect with no effect on the number of OL workers employed.

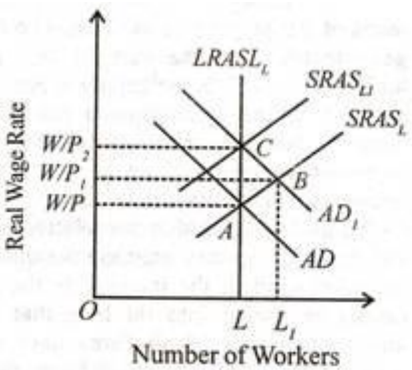


Fig. 4

If the shift in aggregate demand due to increase in the money supply is unanticipated, firms will misperceive the increase in general and relative prices. They will want to produce more and increase the demand for workers which will raise the real wage rate. In the figure, the AD curve will shift upward to AD_1 and intersect the $SRAS_L$ curve at point B. The number of employed workers will increase from OL to OL_1 along-with the rise in real wage to W/P_1. This increase in employment in the short-run is only temporary. But when firms fully

adjust their price expectations in the long run, the $SRAS_L$ curve will shift to $SRAS_{L1}$ to intersect the AD_1 curve at C with no change in the level of OL workers employed, though at a higher real wage W/P_2.

11.5.4 The Goods Market:

Consider the goods market in Fig. 5 where the economy is initially in equilibrium at point A where the curves LRAS, AD and SRAS intersect. Here the price level OP is fully anticipated and OY is the long-run equilibrium level of output.

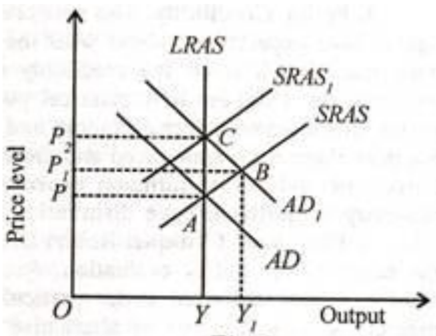


Fig. 5

Suppose there is increase in aggregate demand due to anticipated increase in the money supply. This will shift the AD curve upward to the right to AD_1. As a result, there is an immediate upward revision of price expectations to OP_2. Firms increase the supplies of goods and the SRAS curve shifts upward to the left to $SRAS_1$. There is now a new equilibrium at point C where the curves AD_1, $SRAS_1$ and LRAS intersect. The price level moves straight from OP to OP_2 and the economy moves from A to C with no increase in the output level OY.

However, if the increase in aggregate demand is unanticipated due to increase in the money supply, the economy moves from the initial equilibrium point A to B at the intersection of AD_1 and SRAS curves with the price level rising from OP to OP_1 and output increasing from OY to OY_1 level. But this will be only in the short run. When the economy goes through an adjustment process, it will return to its long-run equilibrium level of OY output at OP_2 price level.

11.5.5. Policy Implications of New Classical Macroeconomics:

The new classical macroeconomics has a number of policy implications which are explained as under:

1. Policy Ineffectiveness Proposition:

The new classical macroeconomic analysis holds that with rational expectations and flexible prices and wages, monetary policy, if anticipated in advance, will have no effect on output and employment

in the short run. This is the policy ineffectiveness proposition. It is only an unanticipated increase in the money supply that will affect output and employment. The policy ineffectiveness proposition is explained in Fig. 6 in terms of a supply curve of firms. The relative price at which firms sell the good is taken on the vertical axis and the quantity supplied on the horizontal axis.SS is the supply curve. OP_A is the anticipated relative price and OP_U is the unanticipated relative price of the good.

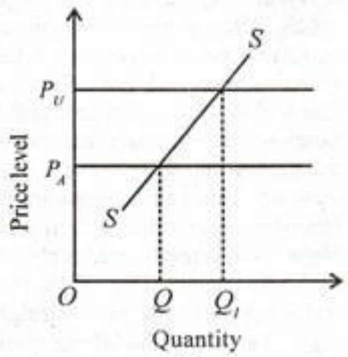


Fig. 6

Suppose the monetary authority increases the money supply and if prices are flexible, all prices will rise in the economy. If the increase in the money supply is unanticipated, firms think that their own prices have risen. They are fooled into thinking that the relative price of the good has increased from OP_A to OP_U. So they increase the quantity supplied from OQ to OQ_1. On the other hand, if the increase in the money supply is anticipated, firms cannot be fooled into thinking that relative price has increased. They know that prices of all firms have risen. So they keep their quantity supplied at OO and there will be no change in output. Thus an anticipated increase in the money supply has no effect on output which proves the policy ineffectiveness proposition.

2. Impotency of Systematic Monetary Policy:

According to the new classical analysis, anticipated changes in aggregate demand will have no effect on output and employment even in the short run by pursuing a systematic monetary policy. A systematic monetary policy is one which takes into account any known “rule”. Such a policy can be fully predicted by the private sector before the monetary authority actually acts upon it. So private buyers and sellers who anticipate increase in the money supply adjust their purchases and sales through flexible wages and prices. Further, the new classicists argue that non- systematic (or discretionary or unanticipated) monetary policy will only bring changes in output and employment around their natural levels. Therefore, to prevent unanticipated changes in aggregate demand and unemployment deviating from its natural level, the new

classical advocate clear monetary rules and avoidance of any discretionary monetary policy.

3. Policy Credibility:

The new classical approach is based on the presumption that rational economic agents have expectations about what the monetary authority is going to announce and this influences their behaviour. But it is on the credibility of policy announcements of monetary authority that agents form expectations. Thus the new classical policy implies that announced (or anticipated) changes in monetary policy will have no effect on output and employment even in the short run provided the policy is credible. Suppose there is an announced and credible reduction in the money supply. This will immediately lead to a downward revision of inflation expectations of rational economic agents. This will, in turn, enable the monetary authority to have disinflation without output and employment costs.

4. The Lucas Critique:

Robert Lucas criticised the building of econometric macroeconomic models of the economy for policy evaluation. According to Lucas, such models were based on parameters derived from past data collected under particular policies. Any attempt to use such macroeconomic models to predict the consequences of alternative policies may be wrong. This is because the parameters of such models may change as economic agents adjust their expectations and behaviour to the new policy.

Lucas argued that although economic agents act in a certain way, it is erroneous to assume that they would continue to act in the same way, if economic policy is changed. Suppose workers anticipate inflation to be 5 per cent next year and they demand 5 per cent wage increase. Anticipating it, if the monetary authority increases the money supply, inflation rises to 10 per cent. This reduces the real income of workers, and firms finding cheap labour, employ more workers to make more goods. This would increase output by reducing the real wage of workers whose expectations of 5 per cent turn out to be wrong.

According to Lucas, such a policy may succeed once or twice. But if the monetary authority continues such a policy, people would expect higher inflation in future and the policy would fail. The monetary authority cannot fool the people all the time. Thus the Lucas critique points out that workers and firms are assumed to choose their actions in the light of existing policies. If there is a major change in policy, it will change people's behaviour and expectations. The general

implication of the Lucas critique is that the effects of policy changes are difficult to forecast accurately and they can be learnt by experience.

5. Policies to Increase Aggregate Supply:

One of the important policy implications of new classical macroeconomics relates to the nature of policies to be followed by the authorities to increase output and reduce unemployment. In the new classical analysis, changes in output and employment are based on the equilibrium supply decisions of firms and workers given their perceptions of relative prices.

It follows that the appropriate policy measures to increase output and reduce unemployment are directed toward increasing aggregate supply of output and labour. New classical macroeconomists recommend a variety of measures to increase output and reduce unemployment that indirectly increase aggregate supply of output and labour. They relate to reduction in the power of trade unions, reduction in unemployment benefits, tax reforms to remove poverty and raise incomes of the unprivileged, measures to increase geographical and occupational mobility of labour, etc.

11.5.6 Criticisms of New Classical Macroeconomics:

The new classical macroeconomics has been criticised mainly on the basis of its hypotheses and policy implications:

1. Rational Expectations Hypothesis Unrealistic:

The rational expectations hypothesis which is the backbone of the new classical approach has four main objections. First, it costs much to acquire process and disseminate publicly available information. So the majority of economic agents cannot act on the basis of rational expectations. Second, the critics point out that information available to government differs from that available to firms and workers. Consequently, expectations of the latter about the expected rate of inflation need not necessarily diverge from the actual rate only by the random error. But the government can accurately forecast about the difference between the expected inflation rate and actual rate on the basis of information available with it.

Third, even if both people and government have equal access to available information there is no guarantee that expectations will be rational. Fourth, as the cost of acquiring, processing and disseminating publicly available information is very high, economic agents may form expectations which are systematically wrong. Thus the rational expectations hypothesis is unrealistic and the new classical macroeconomics which is based on it stands on weak foundations.

2. Markets do not continuously clear:

Critics do not accept the hypothesis that all markets continuously clear. They point out that prices and. wages are not flexible. There is collective bargaining in the labour market which leads to wage contracts leading to stickiness of money wages. The rigidity of wage rates implies that they adjust to market forces relatively slowly because wage contracts are binding for two or three years at a time. Similarly the expected price level at the beginning of the period is expected to hold till the end of the period. As a result, labour market and goods market are unable to clear continuously. As pointed out by Tobin, "The market-clearing assumption is just an assumption and nothing more than that".

3. Aggregate Supply Hypothesis Unacceptable:

Economists do not accept the aggregate supply hypothesis that changes in output and employment reflect voluntary response of workers and firms to perceived changes in relative prices. According to them, it is changes in aggregate demand announced by the monetary authority that influence output and employment both in the short run and long run.

4. Policy Implications Unacceptable:

Critics do not accept the policy implications of new classical macroeconomics because they are derived from unrealistic hypotheses. Economists like Phillips, Taylor and Fischer have demonstrated that if wages and prices are not completely flexible, monetary policy becomes effective in the short run. It can influence output and employment in the short run even if expectations are rational.

Further, as firms do not know enough about the structure of the market to estimate the market-clearing price level and there are non-clearing labour markets due to wage rigidity, economists do not accept the impotency of monetary policy.

4. Empirical Evidence:

There has been some empirical evidence for and against the new classical macroeconomics. Economists like Sargent, Minford, Barro, Gordon, Blinder, etc. have constructed econometric models to test the hypotheses and policy implications of new classical macroeconomics.

The results of main empirical evidences are as under:

1. Empirical evidence on European depression shows microeconomic interferences in labour markets in the form of

generous unemployment insurance when unemployment was extremely low in 1973.

2. Empirical research has not been able to find large inter temporal substitution effects in labour market
3. Lucas in his model of 1973 found evidence in support of the new classical Phillips curve that it was vertical in the short run. But Gordon's econometric study for Europe in 1987 concluded that the original empirical Phillips curve existed.
4. A number of empirical studies, one by Muth himself in 1985, have questioned the validity of rational expectations hypothesis. They used directly observed data on expectations to test rationality. These tests rejected the rational expectations.
5. Rotemberg statistically tested some macroeconomic models of rational expectations in 1984 on the basis of the three hypotheses viz., expectations are rational, markets continuously clear and aggregate supply, of the new classical theory. When tested jointly, the joint hypothesis was rejected.
6. Barro in his statistical test of unanticipated changes in money growth on output and employment came to the conclusion that it is unanticipated changes in the money stock rather actual money growth that affect output and employment with quite long lags of two to four years.

11.6 AUSTRIAN (MACRO) ECONOMICS POLICY

The Austrian School of Economics originated with the 1871 publication of Carl Menger's *Principles of Economics*, which emphasized the theory of marginal utility. Two other economists at the University of Vienna, Eugen von Böhm-Bawerk and Friedrich von Wieser, continued and expanded on Menger's work. The Austrian School was named as such to distinguish it from the German Historical School. Current-day economists working in this tradition are located in many different countries, but their work is referred to as Austrian economics.

The Austrian School made several significant contributions to what is now considered "mainstream" economics, such as the subjective theory of value and marginalism in price theory. Most significantly, Austrian economists developed the "economic calculation problem" which is a criticism of central economic planning. Ludwig von Mises and Friedrich A. Hayek continued the Austrian tradition in the 1920s, 1930s, and 1940s with their works on the business cycle and on the impossibility of economic calculation under socialism. Austrian analysis fell out of favor with economists during the 1950s and 1960s,

but the awarding of the Nobel Prize in economics to Hayek in 1974, coupled with the spread of Mises's ideas by his students and followers, led to a revival of the Austrian school.

The major cornerstones of Austrian economics are methodological individualism, methodological subjectivism, and an emphasis on processes rather than on end states.

- Methodological Individualism: The actions of individuals, not of groups or collectives, are the focus of study for Austrian economists. Economics, to an Austrian economist, is the study of purposeful human action in its broadest sense. Since only individuals act, the focus of study for the Austrian economist is always on the individual.
- Methodological Subjectivism: An individual's actions and choices are based upon a unique value scale known only to that individual. It is this subjective valuation of goods that creates economic value.
- Processes versus End States: An individual's action takes place through time, along with the actions of other individuals, so the exact outcome of a vast number of plans being executed at the same time can never be predicted. A person decides on a desired end, chooses a means to attain that end, and then acts to attain it. Because all individuals act under the condition of uncertainty—especially uncertainty regarding the plans and actions of other individuals—people sometimes do not achieve their desired ends. The actions of one person may interfere with the actions of another. The actual consequences of any action can be known only after the action has taken place. This does not mean that people do not take into account others' plans, but the exact outcome of a vast number of plans being executed at the same time can never be predicted.

It is important to note that Austrian economic theory conflicts with the theory of rational expectations. Austrian economists agree with adherents of rational expectations that individuals make decisions based on their rational outlook, available information, and past experiences. Ludwig von Mises wrote, "Human action is necessarily always rational" (Mises 1949, 18). But Austrians economists do not believe that the rational expectations theory can be consistently utilized. For instance, they believe malinvestment, or badly allocated investments by entrepreneurs, occurs when interest rates are kept artificially low by a central bank. Rational expectations theory would

contradict this view and argue that entrepreneurs are so rational that they would not get fooled by lower interest rates, and consequently would not make malinvestments. Austrians' objection to rational expectations stems from their belief that people's intentions do not necessarily result in coordinating actions. While individuals are rational in their thinking, their aggregated actions do not necessarily result in rational actions. Roger Garrison noted the implications of the Austrians' objection: "There are ultimate limits on the individual's ability to transform expectations into actions. Put bluntly, you can't spend expectations" (Garrison 1989, 9).

Another important concept the Austrians utilize is of "time preference," which is used to illustrate the choice of consuming now or in the future (and saving now). Time preference is what determines the market's interest rate. If people have a higher time preference, they will spend more now and save less. People who have lower time preferences will save more and spend less now so they can consume more in the future. Also important is "money demand," or a person's cash balance, which is the funds people are willing to hold (and not spend or put into a savings account, which would then be used as investment). The less secure a person is about their future, the higher their cash balance. The more secure a person is about their future, the lower their cash balance.

11.6.1 Austrian Business Cycle Theory

Austrian economists believe business cycles are the consequence of excessive growth in bank credit due to an artificially low interest rate, which results in a volatile imbalance between saving and investment. Low interest rates tend to stimulate borrowing from the banking system. This leads to an increase in capital spending funded by newly issued bank credit. A credit-sourced boom results in widespread malinvestment. Malinvestment occurs when firms make investments choices that are faulty due to an artificially low interest rate. Then, a correction or "credit crunch" occurs when the credit creation has run its course. Then the money supply contracts, causing resources to be reallocated back towards their former uses. Ultimately, business cycles are caused by distortions in the availability of credit. The Austrian Business Cycle Theory is shown using the Production Possibilities Frontier, the Loanable-Funds Market, and the Hayekian Triangle.

11.6.2 The Production Possibilities Frontier

Austrian economists use the Production Possibilities Frontier (PPF) to show the trade-off between consumption and investment. Consumption and investment represent alternative uses of the

economy's resources. This is in contrast to Keynesian models that treat consumption and investment as additive components. Investment in this model represents gross investment, including replacement capital. Replacement capital is the portion of gross investment that replaces old capital, so it does not contribute to the economy's expansion. The difference between gross investment and replacement capital is the significant portion responsible for fueling the economy's growth.

11.6.3 Policy Implications

Austrian economists support the idea that a free market would be best for economic growth and stability, because a central bank's manipulation of interest rates is what causes the business cycle. Government intervention in is widely discouraged among Austrian economists. Ludwig von Mises said, "The first job of an economist is to tell governments what they cannot do." They also support minimal taxation and the assurance of property rights. They view private property in the means of productions as a necessary condition for rational economic calculation. They are opposed to price controls and any regulations that inhibit enterprise. Austrian economist Henry Hazlitt said, "the larger the percentage of the national income taken by taxes, the greater the deterrent to private production and employment"(Hazlitt 1979, 39). Austrian economists generally oppose both monetary and fiscal policy, and prefer to allow the economy to function without intervention. Almost all government functions would be better executed and less costly if undertaken by private business. The exception is government functions that are necessary at the national level, such as national defense.

Austrian economists are especially critical of monetary policy and the Federal Reserve. They strongly support the idea of abolishing the Federal Reserve, and letting the economy function independently from government. Austrian economist Roger Garrison wrote, It is implausible that the Federal Reserve's policymakers who could not tell whether we were in a bubble until it burst could nonetheless determine the optimal policy for avoiding busts and then, once the busts come, for nursing the economy back to health. Given the policymakers' incentives, a central bank acts to extend an ongoing boom and then, when it eventually ends in a bust, to initiate another one. And if the market were allowed to nurse the economy back to macroeconomic health, a central bank even of the most beneficent sort could only hope to do no harm. The hope of achieving long-run sustainable growth can

only rest on the prospects for centralizing the business of banking. (Garrison 2012, 436)

Not all Austrian economists believe there is no role for government in economic planning, however. For example, some believe that if the government wanted to raise the minimum wage, it could do so by increasing the marginal labor productivity through implementing policies that encourage profits, investment in technology development, education, and skill training; not by setting a minimum wage as a law using government fiat. Austrian economists say the government should implement more efficient and effective policies that actually increase production and stimulate economic expansion. This would better address the problems of low wages and unemployment because it would increase the demand for labor. Therefore, the government should focus on how to increase the rate of productivity rather than on increasing the employment rate or individuals' wage earnings. They assert minimum but efficient intervention will result in the greatest economic growth.

11.6.4 Criticisms of Austrian Economics

Austrian economists are known to be comparatively more philosophical than mathematical. The Austrian School's rejection of data and statistics is the most common and biggest criticism against them. The critics say that since Austrian economists are innumerate, they cannot quantify the cause to an effect. This means that it is not possible to distinguish the significance of different causes in a theory. For example, there may be more than one cause to a theory, and among those causes, one may have a lesser or greater impact on the effect. In this case, it is impossible for them to differentiate or rank the significance of different causes. Thus, the critics say, the Austrian economists rely on their "biased" philosophy and assumptions, rather than on statistical measurements. Many economists consider Austrian economic theories, which are inconsistent with empirical evidence, to be incorrect. Monetarist Milton Friedman said,

I think the Austrian business-cycle theory has done the world a great deal of harm. If you go back to the 1930s, which is a key point, here you had the Austrians sitting in London, Hayek and Lionel Robbins, and saying you just have to let the bottom drop out of the world. You've just got to let it cure itself. You can't do anything about it. You will only make it worse. You have Rothbard saying it was a great mistake not to let the whole banking system collapse. I think by encouraging that kind of do-nothing policy both in Britain and in the United States, they did harm. (Friedman 1999)

Austrian economists believe that "economics is not about the amassing of data, but rather about the verbal elucidation of universal facts and their logical implications" (Mises Institute 2014). In response to criticism over their rejection of econometrics, Austrian economist Murray Rothbard calls statistical tests for economic theory a "grave mistake that plagues economic studies." He claimed statistics meant little and definitely did not determine the validity of economic theory because it only records past events and cannot describe "unrealized events" (Rothbard 1963, 81). In light of their rejection of the mathematics used by mainstream economists, economist Bryan Caplan, argues that Austrian economics is not economics at all, but rather a "philosophy, methodology, and history of thought." When the mathematical models used by other schools of thought do not work to explain or predict economic events, it is worth examining the Austrian perspective, which offers an alternative explanation.

11.7 POST-KEYNESIAN MACRO ECONOMIC POLICY

Post-Keynesian Economics (PKE) is a school of economic thought which builds upon John Maynard Keynes's and Michal Kalecki's argument that effective demand is the key determinant of economic performance. PKE rejects the methodological individualism that underlies much of mainstream economics. Instead, PKE argues that fundamental uncertainty and social conflict require an analysis of human behaviour based on social conventions and heuristics embedded in specific institutional contexts. Social interactions give rise to distinct systemic properties at the macroeconomic level. For example, if all individuals attempt to increase their saving simultaneously, total saving at the aggregate level may not increase because aggregate demand and output will decline (the paradox of thrift).

The principle of effective demand posits that economic activity is driven primarily by expenditure decisions. In particular, investment is held to be a key determinant of demand, output and employment. In contrast to the neoclassical (mainstream) approach, investment is not constrained by the availability of saving, but may be constrained by the availability of credit. Investment decisions are regarded as driven at least in part by 'animal spirits'. As such, economic activity cannot be reduced to the outcome of some optimising behaviour but instead depends upon expectations and sentiment, income distribution and financial conditions. Income distribution plays a prominent role in PKE because expenditure propensities differ between groups of individuals

and firms. Consumption propensities vary by income level or income classes while investment propensities are affected by firm size and strength. Shifts in the distribution of income and wealth therefore affect aggregate demand.

PKE also has a distinctive take on monetary theory. This take focuses on holding money as protection against uncertainty (liquidity preference), money as a denominator of contracts, and the use of money as a means of payment. Money in a modern economy mostly consists of bank deposits which are created by commercial banks as a side effect of their lending decisions. The money supply is not therefore under the direct control of central banks or governments. The flexibility of the monetary and financial system allows for the dynamism of capitalist economies – since credit can be used to finance investment – but it can also give rise to financial instability and credit-driven bubbles. In times of uncertainty a rush to liquidity can result in higher interest rates and falling asset prices, and hence to financial instability.

PKE regards modern economies as systems of cash-flows, not systems of equilibrium between real variables. Concepts such as the 'natural' rate of interest (and the associated 'natural' rate of unemployment) are therefore rejected – the rate of interest is not the equilibrium price of present versus future consumption but is the price of liquidity, a monetary variable with distributional effects which is strongly influenced by the decisions of the central bank.

Unlike neoclassical economics, PKE does not regard wage flexibility and labour market structural reforms as a route to full employment but instead sees employment as a reflection of demand conditions in the goods market. As such, capitalist economies have no automatic mechanism towards full employment. PKE rejects the view that wage cuts can be used as a way to reduce unemployment since such cuts will lead to reductions in consumption expenditures and thus to aggregate demand. PKE holds that this is the case not only in the short run but also over longer periods because of hysteresis mechanisms such as social wage norms and demand-driven productivity growth. The supply side cannot be considered in isolation but is likely to be affected by demand conditions. The economy is a path-dependent system.

PKE builds on the work of J.M. Keynes as well as other key figures such as Michal Kalecki, Joan Robinson and Nicholas Kaldor. The term PKE came into use from the 1970s onwards when the narrowing of mainstream economics led to the formation of PK academic journals and conferences. From the outset, PKE was opposed

to the appropriation, in degenerate form, of Keynesian arguments by the mainstream. While there are similarities in short run analysis to the so-called New Keynesian Economics, there are also fundamental differences: PKE rejects the need for optimising microfoundations and the concept of long-run supply-side equilibrium; it highlights the possibility of financial instability; and it regards involuntary unemployment as a normal feature of market economies that needs to be explained. PKE maintains that aggregate demand matters both in the short and in the long run.

11.8 SELF-ASSESSMENT QUESTIONS

Part – A

28. Define the term labour market?
29. What is meant by income policy?
30. What is goods market?

Part – B

29. Explain the macro-economic policy objectives?
30. What are the macro-economic policy instruments?
31. Explain the principles of new classical macroeconomics.
32. Brief note on post-keynesian macro-economic policy.

Part – C

14. Discuss the policy implications of new classical macroeconomics.
15. Discuss the Austrian macro-economic policy

UNIT-XII: INDIA'S MACROECONOMIC POLICY

Contents

12.1 AN OVERVIEW

This is an opportune time to revisit the 2-4-6-8 framework that sets economic targets for achieving sustained high growth. Finance minister Nirmala Sitharaman will present the first budget of the second Narendra Modi government against the backdrop of a sharp economic slowdown. The growth rate in the fourth quarter of fiscal 2019 was 2.2 percentage points lower than the growth rate clocked in the first quarter. The Indian economy has been losing momentum in recent months, and even though it is unlikely that the quarterly rate of economic expansion will substantially come down from here in the current fiscal year, a rapid recovery does not seem to be on the cards either.

A lot of attention is now focused on what the monetary policy committee (MPC) will do this week. The fiscal strategy will be revealed in the Union Budget due to be announced in early July. There seems to be more scope for monetary loosening rather than fiscal expansion right now—even while the problem of monetary policy transmission remains intact. Lending rates have not moved down in tandem with reductions in the policy rate.

The finance minister—and indeed the entire Modi government—will also have to pay attention to economic challenges over the longer term once the excitement over her first budget dies down.

India has been operating in a 2-4-6-8 macro framework in recent years. These are the respective targets or comfort zones for the current account deficit, retail inflation, the consolidated fiscal deficit on the Union and state governments, and the aspirational growth rate of the Indian economy. A well-functioning macro policy framework should be able to usually meet all four targets simultaneously, while satisfying the famous Tinbergen Rule that the number of policy targets should be equal to the number of policy instruments.

There are two specific issues with the existing 2-4-6-8 macro playbook. First, these four targets have been identified at different points of time by different institutions. There is no common analytical framework.

The estimate for the sustainable current account deficit goes back to the 1993 report of a committee headed by C. Rangarajan, though there have been subsequent updates. The retail inflation target comes from the 2014 report on Indian monetary policy by the committee headed by Urjit Patel. The target for the consolidated fiscal deficit is embedded in the Fiscal Responsibility and Budget Management Act of 2003, and similar fiscal laws passed by state legislatures. The aspirational growth rate can be found in some of the recent strategy papers by NITI Aayog.

A look at the data over the past decade shows that India has rarely been able to meet all four targets simultaneously. In other words, India has found it difficult to grow at 8% a year while keeping the current account deficit at 2%, retail inflation at 4% and the consolidated fiscal definition at 6%. Why is that so? One possible reason why rapid growth with economic stability has been hard to achieve is the nature of the Indian growth process. India has been a mix of East Asia and Latin America—periods of rapid growth supported by high domestic savings and periods of economic instability because of a heavy dependence on consumption. The splendid economic boom in the four years to the North Atlantic Financial Crisis is an example of the former. The economic instability during the four years after the crisis is an example of the latter. There are no prizes for guessing which model India should aspire for.

The Narendra Modi government now has to make a tricky political economy choice. Should it ease some of the economic stability constraints such as the fiscal deficit, the current account deficit and retail inflation in a bid to maintain economic growth at 8%; or continue to prioritize hard-won economic stability while facing the risk of social unrest as lower economic growth fails to provide the adequate number of jobs in formal enterprises; or put in place policy reforms that can help raise potential growth without creating periodic bouts of macroeconomic instability? The third option is the most economically attractive in the medium term but also the least politically attractive in the short term given the ongoing economic slowdown.

This is an opportune moment for a organization such as the NITI Aayog to start a broader discussion among economists about whether the 2-4-6-8 framework needs to be tweaked—and if so, how? India needs at least two more decades of rapid economic growth

without economic instability to pull most citizens out of extreme poverty. That is easier said than done. The key is to figure out what policy changes are needed to lift potential growth to well over 8% a year, and what are the levels of inflation, fiscal deficit and current account deficit needed to do this in a sustainable manner.

12.2 JAN DHAN YOJANA

Jan Dhan Yojana is the ambitious scheme of Honorable Prime minister Mr. Narendra Modi which will strengthen India through collecting revenues. Prime Minister Narendra Modi on 28 August 2014 launched highly motivated Pradhan Mantri Jan Dhan Yojana (PMJDY) which was significant project of NDA government to open at least one bank account to every family. Cabinet ministry of Mr. Narendra Modi opened Pradhan Mantri Jan-Dhan Yojana all over India and it is predicted that this effective scheme may prove to be beneficial for country

External Affairs Minister, Sushma Swaraj and Madhya Pradesh Chief Minister Shivraj Singh Chouhan launched the scheme in Bhopal, while the scheme was launched by Union Transport Minister Nitin Gadkari in Nagpur, Union Law Minister Ravi Shankar Prasad in Chennai, Union Minister for Chemicals and Fertilizers Anantha Kumar in Bangalore and Union Minister for Consumer Affairs, Food and Public Distribution Ram Vilas Paswan in Patna.

12.2.1 Major Objective of Jan-Dhan Yojana:

The Jan-Dhan Yojana is aimed to provide basic banking accounts with a debit card with inbuilt accident insurance. The Government plans to open at least one crore bank accounts on the first day itself. Other State Governments also flagged-off this scheme. Prime Minister also revealed a logo and a Mission Document on Financial Inclusion. He also dedicated the mobile banking facility on the basic mobile phone to the nation. Its main features include Rs 5,000 overdraft facility for Aadhar-linked accounts, RuPay Debit Card with inbuilt Rs 1 lakh accident insurance cover and minimum monthly remuneration of Rs 5,000 to business correspondents who will provide the last link between the account holders and the bank. The banking network is all set to open bank accounts of the uncovered households in both rural and urban areas.

This effective scheme has a national mission on financial inclusion in order to cover all households in the country with banking facilities and having a bank account for each household. The scheme has an objective to provide two accounts to 7.5 crore identified

households by August 2018. PMJDY works on the principles of Sab Ka Sath Sab Ka Vikas.

12.2.2 Main Features:

The first phase of the mission, which started on 28 August 2014, would end in August next year. The second phase will began from 2015 till 2018 that will cover aspects such as micro insurance and pension schemes like 'Swavalamban'. Rs. 5,000 overdraft facility for Aadhar-linked accounts. The National Payments Corporation of India has tied up with HDFC Ergo to provide the 1 Lakh initial cover while the additional 1 Lakh cover would be provided by the four state owned general insurers New India Assurance, National Insurance, United India Insurance and Oriental Insurance Company. There is minimum monthly remuneration of Rs 5,000 to business correspondents who will provide the last link between the account holders and the bank.

PMJDY is more effective schemes as compared to other schemes launched by earlier UPA Govt. Professionals stated that previous scheme did not focus on households and urban financial inclusion. They maintained that there was a cumbersome Know Your Customer (KYC) formality, restricting account opening. Jan-Dhan Yojana scheme will allow government to return people's money to them. The main purpose of the scheme is 'Mera Khata Bhagyavidhata', which means 'my account is divine'. Once you become an account holder, you will get Rs 1 lakh insurance immediately without filling any separate form. And if you run the account properly for six months by withdrawing and depositing money at regular intervals, then a loan of Rs 5,000 will be made available to you, said Swaraj. The scheme will be beneficial for the poor. Every family will have its own bank account. It will help in saving money and keeping it safe and secure. Various political leaders appreciated this scheme. Ravi Shankar Prasad said that the scheme will be followed by economic banking, literacy and education.

There are many advantages of Jan Dhan Yojana. The account holders will be provided a zero-balance savings account with a RuPay debit card. Account holder will get a kit containing cheque book, financial literacy and pass book. However this would vary from bank to bank and account usage. Person will also get Aadhar number immidiately. The account holder will also be provided life insurance cover of INR 30,000 (for accounts opened before January 26, 2015) and an accidental insurance cover of INR 1 lakh. By 2018, it is likely that all account holders under the PMJDY scheme will have access to an Aadhaar-linked bank account with overdraft facility up to INR

5,000. By allowing direct money transfer into bank accounts, the scheme is likely to cut down on corruption. The Prime Minister also said that by providing debit cards that can be swiped the scheme shall reduce the dependence on credit cards, thereby promoting savings.

12.2.3 Documents Required for Account Opening:

Address proof either current or permanent. If address changes then person needs to submit fresh address proof to the bank. You can read more about the recent know your customer (KYC) norms changed by RBI. For persons with no valid documents, the account can still be opened by providing self-attested photographs, signature/thumb print in front of bank official. Such account is called Small Account. Read more about this here. However this small account would be valid only for one year post that person will have to provide official valid documents which include: Passport, Driving License, PAN card, Voter ID card, Aadhar card, or Ration card and two passport size photographs.

There are some drawbacks of this scheme. Experts stated that Jan Dhan Yojana is questionable viability of banking, insurance accounts, Priority versus freebies banking and it may burden on the taxpayer.

Lastly, it can be said that The Pradhan Mantri Jan Dhan Yojana is devised to assist people of India, especially the poor sections by providing a bank account, credit facility, insurance cover and debit card. In the long run, the scheme will also permit the poorer sections to avail themselves of subsidies and overdraft facilities through their bank accounts, which are intended to eliminate money-lenders, commission agents and corruption. According to PM Modi, this scheme will boost everyone's confidence. Jan Dhan Yojna creates record and Bank Accounts will enhance the economy. Jan Dhan Yojna will stop monetary untouchability.

12.2.4 Implementation of the Scheme

The mission will be implemented in two phases, the details of which are as follows.

Phase I - 15 August 2014 - 14 August 2015

- Universal access to banking facilities for all households across the country through a bank branch or a fixed point Business Correspondent (BC) within a reasonable distance.
- To cover all households with atleast one basic banking account with RuPay Debit Card with inbuilt Rs 1 lakh accident insurance cover.

- Financial literacy programme to be taken to the village level.
- Expansion of Direct Benefit Transfer under various government schemes through bank accounts of the beneficiaries.
- Issuance of Kisan Credit Card is also proposed

Phase II - 15 August 2015 - 14 August 2018

- Providing micro-insurance to the people.
- Unorganised sector pension schemes like Swavalamban through the Business Correspondents.

Phase III - beyond 14 August 2018

- The flagship financial inclusion program (PMJDY) will focus on opening accounts from "every household to every adult".
- Existing Over Draft (OD) limit of Rs 5,000 to be raised to Rs 10,000.
- There will not be any conditions attached for OD upto Rs 2,000.
- Age limit for availing OD facility to be revised from 18-60 years to 18-65 years.

Under the expanded coverage from "every household to every adult", accidental insurance cover for new RuPay card holders to be raised from Rs 1 lakh to Rs 2 lakh to new PMJDY accounts opened after 28.8.18.

Financial inclusion is delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups, providing them with timely and adequate access to the financial products, services like Bank Accounts, Savings Products, Remittances & Payment services, Insurance, advisory services, Entrepreneurial and Micro credit, Micro finance.

"Financial Inclusion" is the way the Governments strive to take the common man along by bringing them into the formal channel of economy thereby ensuring that even the person standing in the last is not left out from the benefits of the economic growth and is added in the mainstream economy thereby encouraging the poor person to save, safely invest in various financial products and to borrow from the formal channel when he need to borrow.

NSSO data reveal that 45.9 million farmer households in the country (51.4%), out of a total of 89.3 million households do not access credit, either from institutional or non-institutional sources. Further, despite the vast network of bank branches, only 27% of total farm households are indebted to formal sources (of which one-third also borrow from informal sources). Thus to improve the financial inclusion in India government has launched Pradhan Mantri Jan-Dhan Yojana. It is National Mission for Financial Inclusion to ensure access

to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner.

12.2.5 Impact of Jan Dhan Yojana

For Common Man

1. Anyone who does not have an account will get an account in bank.
2. Common man will get direct benefit of government subsidies.
3. Common man will also have a financial and credit history on government records.
4. It will be easy to get loan directly from financial institutions instead of other modes that charge heavy interest rate.

For Business

1. More and more people will be doing shopping via debit cards reducing time, manpower and risk involved in managing cash transactions.
2. More relevant data will be available to perform various analyses to create marketing plans.

For Government

1. It will be a great milestone achieved after linking with Aadhaar card to make direct financial transactions, subsidies transfer and lot more.
2. It will be easy to monitor transactions and collect financial data as more people will be using recorded mode of payments.

For Banking Institutions

1. Banks will get new customers that directly means more money inflow.
2. These customers may result in potential clients for other banking services like loans.
3. Further, PMJDY promotes differential banking, allowing new entrants to innovate without the legacy constraints older banks might face. It was envisioned that PMJDY would account for social-security errors, alleviate the problem of asymmetric information via cashless payments, and tackle black money.

12.2.6 Achievements under PMJDY (as on 21st December,2016)

(i) 26.03 crore accounts have been opened under PMJDY out of which 15.86 crore accounts are in rural areas and 10.17 crore in urban areas.

(ii) Deposits of Rs. 71,557.90 crore has been mobilized.

(iii) 19.93 crore RuPay Debit cards have been issued under PMJDY.

(iv) Aadhaar seeding in PMJDY accounts 14.43 crore
(v) Zero balance accounts has been reduced to 23.86%
(vi) Household Coverage: 99.99% households out of the 21.22 crore households surveyed have been covered under PMJDY.

As on 23rd December, 2016, out of total requirement of 1,27,198 fixed location Bank Mitras in Sub Service Areas (SSAs), 1,26,985 Bank Mitras have been deployed by banks.

Overdraft (OD) in PMJDY accounts: As on 23rd December, 2016, 44.28 lakh accounts have been sanctioned OD facility of which 23.85 lakh account-holders have availed this facility involving an amount of Rs.316.56 crore.

12.2.7 Insurance Claims Settled

(i) As on 23rd December, 2016, out of 1712 claims lodged, 1626 claims have been disposed off under accidental insurance cover of Rs. 1 lakh under RuPay debit card .
(ii) As on 23rd December, 2016, out of 3936 claim lodged, 3421 claims paid under Life Cover of Rs.30,000/- to those beneficiaries who opened their accounts for the first time from 15.08.2014 to 31.01.2015.

12.2.8 Challenges before Jan Dhan Yojana

JDY relies heavily on the BC model for expanding the banking network in both the rural and urban areas. One of the primary reasons behind the unsatisfactory performance of the BC model is the poor remuneration (Rs 2000-3000 per month) paid to business correspondents.

For such a meager amount, it is unfair to expect a BC to visit villages or slums at regular intervals, open new bank accounts for the poor people, process financial trans-actions, educate customers about banking services and answer all queries of the customers. Under the JDY, the BCs will get a minimum compensation of Rs.5000 per month.There are several other important factors which act as a barrier in the delivery of banking services through the BC model. Some of these factors include

- Inordinate delay in issuing smart cards to customers (three to six months);
- Limited utility of smart cards as services such as remittance are not loaded;
- Inadequate cash handling limit given to bcs;
- Devices not working properly due to technical problems or poor network connectivity;
- Lack of trust in bcs;

- Lack of customer-centric banking products and services;
- Poor governance and inadequate supervision of bcs;
- Absence of a comprehensive strategy for financial education.

The expanded financial architecture will need personnel, which is lacking, and could be important supply side deficit. Banks have been advised under the PMJDY to open 200 accounts a day in each of their existing rural branches, but they are wary, as the existing infrastructure in those branches cannot handle the extra load.

Therefore, banking reach should be increased gradually and along with the capacity of banking infrastructure, so that the customer base at any time can be serviced well and the system is not pressurized at any time.

12.2.9 Conclusion

Financial inclusion cannot be achieved only by meeting the target numbers. The RBI Governor, Raghuram Rajan had cautioned banks on the risks involved in just hunting for number with regard to Jan-Dhan Scheme, asking them not to compromise on core objective of the programme. "When we roll out the scheme, we have to make sure it does not go off the track. The target is universality, not just speed and numbers." The scheme can be a "waste" if it leads to duplication of accounts, if no transaction happens on the new accounts and if the new users get bad experiences.

Pradhan Mantri Mudra Yojana (PMMY) is a scheme initiated by Government of India to provide loans up to Rs. 10 lakh to non-corporate, non-farm small/micro enterprises. Under PMMY, people involved in non-farm activities can avail loans up to Rs. 10 lakh. The loans are offered under Mudra scheme by Private Sector Banks, Non-Banking Financial Companies (NBFCs), Micro Finance Institutions (MFIs), Public Sector Banks, Regional Rural Banks (RRBs), State and Urban Co-operative Banks and Foreign Banks.

12.3 MUDRA

MUDRA (Micro Units Development and Refinance Agency) provides integrated financial support to the micro enterprises sector which includes small manufacturing units, food service units and small industries to name a few. The basic motive of establishing MUDRA is to extend the facility of institutional finance to small business entities involved in trading, manufacturing and service sectors.

The MUDRA Loan scheme was proposed with the motive of including business people comprising NCSBS (Non-Corporate Small

Business Sector) and 'own account enterprises' into the formal banking system. Typically NCSBS in India includes street vendors, repair shop owners, small scale industries and artisans. These small businesses many of which are informal in nature, provide employment to about 10 crore Indians.

12.3.1 Types of Pradhan Mantri MUDRA Yojana (PMMY) Offerings

MUDRA Yojana has a bouquet of offers. The significant few include –

1. **Micro Credit Scheme** – Under this scheme, financial support is extended through Micro Financial Institutions (MFIs) so that they can provide business loans of up to Rs. 1 lakh. Typically the mode of delivery of such loans could include individuals engaged in specific micro enterprise activities, as well various joint liability groups (JLGs) and self-help groups (SHGs).
2. **Women Enterprise Programme (Mahila Uddyami Yojana)** – This scheme is an important part of MUDRA Yojana targeted specifically at women entrepreneurs. It is designed to encourage individual women entrepreneurs, women's Joint Liability Groups and Self-Help Groups to set up various micro enterprises. Special concessions may be afforded in such cases for example reduction in interest rates of up to 0.25% on loans granted.
3. **Refinance scheme for Banks** – MUDRA allows banks including Scheduled Co-operatives Banks, Regional Rural Banks and Commercial banks to easily refinance loan amounts (up to Rs 10 lakhs per unit). The refinance facility is available only if these business loans have been extended for micro enterprise activities. Banks eligible for availing the refinance facility need to comply with requirements that are notified from time to time.
4. **Mudra Card** – MUDRA card is an innovative credit product which makes credit easily accessible to small business while providing flexibility to the card owner. It can be used as a credit card with overdraft (loan) limit and can also be used as a debit card with the facility of ATM withdrawals. The Mudra Card can be used by businesses to obtain working capital under its unique cash-credit arrangement.
5. **Credit Guarantee Fund** – Also known as the portfolio credit guarantee, this involves the creation and use of a special fund termed as the Credit Guarantee Fund for Micro Units (CGFMU). This fund is managed by the National Credit Guarantee Trustee Company Ltd. and allows eligible entities to receive micro loans with ease.

6. **Equipment Finance Scheme** – This scheme as part of the MUDRA Loan scheme enables small entrepreneurs and micro units to avail a loan to finance the purchase/upgrade of qualifying equipment/machinery. This encourages the enterprises to improve their production techniques to increase overall productivity and efficiency of their business.
7. **Credit to Micro Enterprises** – One of the basic motives of MUDRA is to maximise both the quantum of benefits and the number of beneficiaries from the scheme. A large proportion of India's population is currently involved in specific sectors including but not limited to land transport, food production, textile production and community services. To meet the growth requirements of these sectors, various tailor-made products and schemes were and are being launched in order to help micro enterprises succeed and prosper.

12.3.2 Role for the Banks

It is obvious that the MUDRA scheme can benefit small industries operating in India and act as a driver for the country's development. But this scheme helps banks i.e. the lender too. Any security used to provide the MUDRA loan will be held by the lender so their risk is minimized. Additionally, any asset created using the loan will also be hypothecated to the lender

- The provision of Credit Guarantee Fund trust for Micro and Small Enterprises (CGTMSE) safeguards the bank if the borrower fails to pay their liabilities as a result of incurring a business loss
- The bank may also ask for DPN (Demand Promissory Note) which is a written note of promise made by the borrower to pay back the loan amount on the agreed rate of interest

12.3.3 Documents Required for MUDRA Loan

MUDRA loans or 'Micro Units Development and Refinance Agency' loans are offered by many financial institutions like the commercial banks, cooperative banks, small financial banks, non-banking financial companies, micro finance institutions, and Regional Rural Banks and so on. MUDRA loans are offered under Pradhan Mantri MUDRA Yojana (PMMY), a scheme that was launched on 8th April, 2015 in an effort to support micro, small and medium businesses.

The non-corporate, small businesses and the start-up businesses in India suffer from fund shortage. Getting a regular business loan from

banks and other financial institutions become difficult for these small businesses due to lack of collateral or the insufficient fund available to the business entities. MUDRA loan will help these small businesses to grow, thus contributing to the overall growth in the Indian economy.

Though broadly similar, but the requirements of MUDRA loan documents slightly vary based on the type of loans, type of business and the category of MUDRA loans.

The general documents required for MUDRA loans along with the application form are:

- Identity Proof – Any of: Driving License, Voter ID Card, PAN card, Passport, Aadhaar card, any Photo ID issued by any government authority or signature identification of proprietor or partner from the present banker
- Proof of Residence – Any of: Recent telephone bill (dated within last 3 months), recent electricity bill (dated within last 3 months), passport, recent tax receipt of the property, voter ID card, Aadhaar card, Recent bank statement that is duly attested by the bank officials
- 2 Recent passport-size photos of the loan applicant
- Identity proof and address proof of the business establishment – Copies of most recent business license or registration certificate of the business. Other documents containing the owner's name and the business address also could be furnished for this
- Rental agreement if business establishment is in a rented facility/premise
- Clearance certificate from pollution control board, in case applicable
- Small Scale Industry (SSI) registration from Ministry of Micro, Small and Medium Enterprises is required for certain businesses
- For the loan amount above 2 lakh, audited balance sheets of the units for the most recent three years is required along with the returns of income tax or sales tax
- For all loan amounts above 2 lakh, the projected balance sheets for the next 2 years for working capital limits and projected loan period for term loans to be furnished
- For a company, need the memorandum as well as the Articles of Association
- For a partnership business, partnership deed is required
- Guarantors and Promoters need to furnish assets and liabilities statements as well as the latest income tax return

- For the properties offered as 'Primary', the copies of Title deeds or lease deeds has to be furnished
- Furnish pertaining documents in case applicant belongs to SC/ ST/ or any other special category and intends to avail loan under those categories

Specific Documents Required for MUDRA Bank Loan:

Apart from the general guideline for MUDRA loan documents, there are a certain specific set of documents for specific purposes. These are:

(1) For applying a vehicle loan under MUDRA loan, the following documentation is to be submitted:

- Duly filled Application Form of Pradhan Mantri Mudra Yojana
- Duly filled application form for vehicle loan
- Borrower's passport size photos – 2 photos
- Address Proof
- Identity Proof
- Income Proof
- Bank statement for most recent past six months

(2) For applying a business instalment loan, under PMMY scheme, the following MUDRA loan documents are required:

- Duly filled Application Form of Pradhan Mantri Mudra Yojana
- Duly filled application form of Business Instalment loan
- Address Proof
- Photo ID Proof
- Proof for the establishment
- Proof of ownership of office and/ or residence
- Proof of business continuity
- Trade references
- Proof of qualification
- Bank statement for most recent past six months

(3) For applying business loans, for group and for rural business credits, the following documents are needed:

- Duly filled Application Form of Pradhan Mantri Mudra Yojana
- Duly filled application form of Business Instalment loan
- Duly filled application form for Rural Business credit
- Address Proof
- Photo ID Proof
- Age proof
- Proof of ownership of office or residence
- Continuity of business proof

- Bank statement for past 12 months
- Income tax return documents for most recent 2 years

Various loans come under business loan category. For example, raising the working capital, equipment financing for micro units. Vehicle loans for personal and business use vehicles like auto rickshaw, vehicles for small goods transport, taxis etc. Food products sectors like setting up small eateries and sweet shops, cold storage, ice making etc. Agriculture and related business including livestock, poultry. Textile sectors like handloom, power loom and hand-made textile products and so on. Hence, based on the type of business, required documentation needs to be furnished along with the standard set of MUDRA loan documents.

12.3.4 Types of Loans Provided under MUDRA Loan are:

- Loan for the requirements of Working capital
- Overdraft facility for small business and rural businesses
- Loan for business space renovation
- Loan for purchasing machineries and plants
- Loans for Agriculture related Activities

Types of Business Segments who can avail MUDRA Loan

- Self-proprietor business
- Partnership business
- Service sector firms
- Small Industries
- Small manufacturing units
- Machine operators
- Repair shops
- Truck operators
- Food processors
- Fruit and vegetable vendors
- Food service businesses

12.3.5 Categories of MUDRA Loan Available

Based on the growth phase and development stage of the business as well as the funding requirement, MUDRA loans are available in three categories as follows.

(1) Shishu Category – Under this category, loan is given to those who are just initiating their business and looking for financing. Maximum loan amount of Rs. 50000 rupees is given under this category. Interest rate being 10% to 12% annually with up to 5 years of repayment period.

(2) Kishor Category – Under this category, loans are offered when the business already started but not established yet. The loan amount offered under this category ranges from Rs. 50000 to Rs. 5 lakh. Rate of interest varies based on the lending institution. The business scheme as well as the credit history of the applicant plays an important role to determine the interest rate. Repayment period decided by the bank.

(3) Tarun Category – This category of MUDRA loan is offered when the business is established and there might be need of fund for expansion and to procure assets, etc. The loan amount is between 5 lakh and 10 lakh. Interest rate and the repayment period is based on the scheme and the credit history of the applicant.

In the financial year of 2018-19, total number of PMMY loans sanctioned till date is: 33217471. The amount sanctioned is: 180035.57 crores. The emphasis of this scheme is towards the starting of business or entrepreneurship by women, tribal communities, Dalits, and all the backward section of the society. The MUDRA loan is directed to these particular segments and will enable faster growth of small business and assist people who are in lower income bracket to achieve financial support and reach the better livelihood, and thus contributing positively towards overall economy of the country.

Achievements Under PMMY in Financial Year: 2019-2020	
No. of PMMY Loans Sanctioned	25759606 *
Amount Sanctioned	Rs. 130655.14 CRORE *
Amount Disbursed	Rs. 125982.61 CRORE *

Above data is last updated on: 7/11/2019

Achievements Under PMMY in Financial Year: 2018-2019	
No. of PMMY Loans Sanctioned	59870318
Amount Sanctioned	Rs. 321722.79 CRORE
Amount Disbursed	Rs. 311811.38 CRORE

All in all, the MUDRA scheme has essentially built a great infrastructure for last-mile credit delivery, thus supporting development and promotional activities. It has laid down financial practices that will ensure client protection and will be useful in micro industries further.

12.4 STARTUP INDIA

India is a land of great legends which were famous all over the world due to their actions, sharp minds and high skills. However, our country is still on a developing path because there is a lack of solid support and ways to work in the right direction. Youth in India are full of very talented, highly skilled and innovative ideas. This plan is a great help to go in the right direction using their new and innovative ideas.

12.4.1 Meaning of Start-up India Stand-up India Campaign

A new campaign named Startup India, standup India, was announced by Prime Minister Narendra Modi during his Independence Day 2015 speech. This is an effective scheme launched by the Modi Government on January 16, 2016 to help the youth of the country. This is an initiative for the Indian PM to give opportunities to young people to become industrialists and entrepreneurs who need to establish a startup network. Startups mean that in order to improve the startups of the youth of the country, assistance from banks will be taken so that they can generate more employment in India.

This program is a great start to enable startup through financial support so that they can use their innovative ideas in the right direction. The PM has requested all the banks to support at least one Dalit and one woman entrepreneur. This scheme will inspire those who work towards the business and will lead their careers and the country's economy.

The action plan of this initiative, is based on the following three pillars:

1. Simplification and Handholding.
2. Funding Support and Incentives.
3. Industry-Academia Partnership and Incubation.

An additional area of focus relating to this initiative, is to discard restrictive States Government policies within this domain, such as License Raj, Land Permissions, Foreign Investment Proposals, and Environmental Clearances. It was organized by The Department for promotion of industry and internal trade (DPI&IT).

A startup defined as an entity that is headquartered in India, which was opened less than 10 years ago, and has an annual turnover less than 100 crore (US$14 million). Under this initiative, the government has already launched the I-MADE program, to help Indian entrepreneurs build 10 lakh (1 million) mobile app start-ups, and the MUDRA Bank's scheme (Pradhan Mantri Mudra Yojana), an initiative which aims to provide micro-finance, low-interest rate loans

to entrepreneurs from low socioeconomic backgrounds. Initial capital of 20,000 crore (equivalent to 210 billion or US$3.0 billion in 2018) has been allocated for this scheme.

12.4.2 Work Plan of Start-up India Stand-up India Scheme

A complete work plan of this scheme was started on 16 January 2016. This scheme will encourage entrepreneurship in the country at the grassroots level, which will benefit the youth of the lowest segment of society. Young people have new minds, new ways and new thinking, so they feel better to support as a startup. During the successful launch of the campaign, various IITs, NITs, central universities and IIMs of India were connected through live connectivity. The main objective of this scheme is to promote the promotion of bank financing as well as to encourage entrepreneurship to encourage start-up enterprises and to encourage new techniques of employment creation among them.

12.4.3 Conclusion

This initiative is essential to take India in the right direction. The most important thing about this campaign is that in this the youth of the country has been included as a start-up because they have a new mindset, new ideas, necessary power, energy, skills and new thinking to lead the business. . Youth is an energetic and highly skilled class of society, so they are a better target for this campaign.

12.5 SKILL INDIA MISSION

India is passing through the phase of demographic transition which could be the biggest opportunity or the biggest concern of the country depending upon the utilization of its huge work force. India adds 12 million people to its workforce annually, but very few have any formal skill training. Today, less than four per cent of the Indian workforce is skilled, in contrast to the 42 per cent in US, 76 per cent in Germany, 80 per cent in Japan and 96 per cent in South Korea. Our workforce readiness is one of the lowest in the world and a large chunk of existing training infrastructure is irrelevant to industry needs. Without proper skills this huge youth population would be a demographic liability instead of demographic dividend, However, this could change if we reach out to more people with quality learning opportunities, revamp our existing infrastructure and execute plans more efficiently by making better use of monetary and resource support available.

Skills and knowledge are the driving forces of economic growth and social development for any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work. India is facing several skill development issues which are hampering its' progress & economic growth.

12.5.1 Need for Skill Development in India

In the words of the Mahatma,"The brain must be educated through the hand. The teacher must learn the craft and correlate his knowledge to the craft. The craft cannot be separated from education."

A. Demographic Dividend:

1. Demographic dividend does not mean just people; it means skilled, educated or employed people.
2. The 'demographic window' is only a span of few decades. The skilled youth is required to save demographic dividend from becoming demographic disaster.
3. It is worth mentioning here that India has 54 per cent of its total population below 25 years of age. Over the next 20 years, the labour force in the industrialised world is expected to decline by 4 per cent, while in India it will increase by 32 per cent who are not sufficiently skilled and employable.
4. A conservative estimated figure shows that 104.62 million fresh entrants to the workforce need to be skilled by 2022 in addition to the 298.25 million working persons needing skill training.

B. Sectoral mobilization:

1. Less number of people will be required to work in farming as productivity improves. This would result in sectoral mobilization of workforce from agriculture to secondary and tertiary activities.

2. Skills are the bridge between good jobs and the workforce .Setting standards and quality of training is a pre requisite for skilling and its utilization.

C. New schemes:

1. Only a skilled workforce would lead to the success of initiatives like Make in India and Digital India and smart cities.

D. Skill Capital of World:

1. To convert this vision into reality, India needs to create a skilled and productive workforce matching international standards of quality and productivity through integration of skills and training along with education.

E. Better Employment:

1. Skills are needed to those currently in colleges for them to be better employed.

F. Skill availability and accessibility to avenues for successful ventures can enhance the livelihoods of many.

12.5.2 Objectives of 'Skill India'

The main goal is to create opportunities, space and scope for the development of the talents of the Indian youth and to develop more of those sectors which have already been put under skill development for the last so many years and also to identify new sectors for skill development. The new programme aims at providing training and skill development to 500 million youth of our country by 2020, covering each and every village. Various schemes are also proposed to achieve this objective.

12.5.3 Features of 'Skill India '

The emphasis is to skill the youths in such a way so that they get employment and also improve entrepreneurship. Provides training, support and guidance for all occupations that were of traditional type like carpenters, cobblers, welders, blacksmiths, masons, nurses, tailors, weavers etc. More emphasis will be given on new areas like real estate, construction, transportation, textile, gem industry, jewellery designing, banking, tourism and various other sectors, where skill development is inadequate or nil.

The training programmes would be on the lines of international level so that the youths of our country can not only meet the domestic demands but also of other countries like the US, Japan, China, Germany, Russia and those in the West Asia. Another remarkable feature of the 'Skill India' programme would be to create a hallmark called 'Rural India Skill', so as to standardise and certify the training process.

Tailor-made, need-based programmes would be initiated for specific age groups which can be like language and communication skills, life and positive thinking skills, personality development skills, management skills, behavioural skills, including job and employability skills.

Programme seeks to create an end-to-end implementation framework for skill development, which provides opportunities for life-long learning. This includes incorporation of skilling in the school curriculum, providing opportunities for quality long and short-term

skill training, by providing gainful employment and ensuring career progression that meets the aspirations of trainees.

It will align employer/industry demand and workforce productivity with trainees' aspirations for sustainable livelihoods, by creating a framework for outcome focused training.

It will build capacity for skill development in critical un-organized sectors (such as the construction sector, where there few opportunities for skill training) and provide pathways for re-skilling and up-skilling workers in these identified sectors, to enable them to transition into formal sector employment.

It also seeks to develop a network of quality instructors/trainers in the skill development ecosystem by establishing high quality teacher training institutions. Maintain a national database, known as the Labour Market Information System (LMIS), which will act as a portal for matching the demand and supply of skilled workforce in the country.

The course methodology of 'Skill India' would be innovative, which would include games, group discussions, brainstorming sessions, practical experiences, case studies etc. However, a government-appointed panel has found that the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) – spent over Rs 1,500 crore in skilling over 18 lakh people but failed to achieve key objectives. . This puts in context the various facets of this flagship mission and the various issues concerned with it along with way forward.

12.5.4 Issues in implementation of Skill India Mission:

- The targets allocated to them were very high and without regard to any sectoral requirement. Everybody was chasing numbers without providing employment to the youth or meeting sectoral industry needs.
- No evaluation was conducted of PMKVY 2015 (the first version of the scheme) to find out the outcomes of the scheme and whether it was serving the twin purpose of providing employment to youth and meeting the skill needs of the industry before launching such an ambitious scheme.
- The focus of PMKVY has been largely on the short-term skill courses, resulting in low placements. There has been an over emphasis on this scheme and hence it is seen as the answer to all skill-related issues.
- The Comptroller and Auditor General (CAG) have pointed out flaws in the design and operations of the NSDC and National Skill Development Fund which has resulted in falling short of skill

development goals. Majority of them also could not achieve the placement targets for the trained persons.

- The Sharada Prasad Committee, held the NSDC responsible for poor implementation of the Standard Training Assessment and Reward (STAR) programme. It highlighted that only 8.5 per cent of the persons trained were able to get employment. That is what has been claimed by NSDC.
- The government report has found fault with the STAR scheme on several counts. STAR offered school dropouts financial incentives to acquire new skills, but the report said that "of those who got their results, only 24% have received certificates and less than 18% have received monetary rewards. This is despite the fact that 80% candidates reported having bank accounts, and 91.3% stated they had Aadhaar numbers".
- The Report also cites "serious conflict of interests" in the functioning of the National Skill Development Corporation.
- NSDC has not been able to discharge its responsibilities for setting up sector skill councils (SSCs) owing to lots of instances of serious conflict of interest and unethical practices.
- As per its original mandate, the NSDC should be mobilizing resources for skill development from the industry, financial institutions, multilateral and bilateral external aid agencies, private equity providers and ministries and departments of the central government and states. But the committee said found that the NSDC did not follow any standard criteria for creation of SSCs which not only increased their number but created overlapping jurisdictions.
- Another concern that arose was that the targets allocated to them were very high and without regard to any sectoral requirement. Everybody was chasing numbers without providing employment to the youth or meeting sectoral industry needs.
- There have been apprehensions on how many of the 11.7 million trained in the past two years are really in jobs.

12.5.5 Solutions

It is a path that needs to be treading carefully as it involves the future of our youth. Steps needed are:

- We need to have a holistic approach to vocational education and skill development by having a defined approach for both short-term and long-term training courses to meet the objectives of the Skill India programme.

- In respect of NSRD's activities i.e. core research, evaluation, data analytics and international partnerships need efficient handling, as a mere collection of raw data on various repositories may not portray the proper insights or serve any purpose.
- Merely sharing with the international expert or just importing overseas concepts followed in developed nation may not fetch us with any desired goal, but a clear understanding of trends in national economy, demographic parameters, heritage, culture and tradition(region-wise) and aspiration of people and other relevant indicators are essential before correlating the same for formulating new skilling strategies.
- More and more Indian Skill Development Services officers are to be recruited to work in the frontline administration, instead of engaging other services officers who do not possess the technical expertise vis-à-vis industry experience to supervise the skill development process in the country. ISDS service needs to be extended to the State's training directorates also.
- In NSDA for core research and data analytics job, a collaboration of core experts (from relevant occupations) with statistician and data analysts would probably fetch desirable outcome based on an in-depth understanding of futuristic direction.
- Establishing a ***Skill Development University*** to offer specialized degree programs which will provide advance skills.
- Online learning system could be utilized to impart skill/craft along with using fixed infrastructure. An open platform for e-content on skill development should be created where content can be crowd source.
- It is important to vocationalize the current education system by developing curricula in the lines with industry needs, creating infrastructure for skill training, involving the industry in all aspects of curricula development, training delivery, student assessments and creating a model where students can obtain skills and at the same time get a degree.
- ***Skills on Wheel type initiatives*** could be used to address infrastructure and transport constraints. There are shining examples of Skill Trucks operated in Brazil that take skills training to the rural, remote parts of the country.
- There should be increasing role of industry in all aspects of vocational training – providing latest machinery for training, governance, providing trainers from industry and doing assessment to ensure quality at each stage. Industry should emphasize on

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formal vocational training and certification at the time of hiring and for career advancement.

- Creating standard curricula and assessment across various agencies offering vocational courses. Formal training programs for vocational faculty and trainers so that they understand this pedagogy.

Skill development alone is not sufficient to address the unemployment problem; there is need for availability of job opportunities for those skills. It is not the time to produce people with skill training certificates; rather we need to produce people who are actually employable. For the people with skill certificates the industry must give a premium and preference to that certificate while hiring. If industry does not show traction towards this the entire ecosystem won't be complete. We need to ***bring industries to the forefront of skill development rather than creating centres of skill development*** across India.

For any skill development effort to succeed, markets and industry need to play a large role in determining courses, curriculum and relevance. For this, employers need to be put in the driving seat, with the government acting as a regulator and not the implementer.

12.6 MAKE IN INDIA CAMPAIGN

Make in India is the BJP-led NDA government's flagship campaign intended to boost the domestic manufacturing industry and attract foreign investors to invest into the Indian economy. The Indian Prime Minister, Mr. Narendra Modi first mentioned the keyphrase in his maiden Independence Day address from the ramparts of the Red Fort and over a month later launched the campaign in September 2014 with an intention of reviving manufacturing businesses and emphasizing key sectors in India amidst growing concerns that most entrepreneurs are moving out of the country due to its low rank in ease of doing business ratings.

12.6.1 The Make in India Vision

Manufacturing currently contributes just over 15% to the national GDP. The aim of this campaign is to grow this to a 25% contribution as seen with other developing nations of Asia. In the process, the government expects to generate jobs, attract much foreign direct investment, and transform India into a manufacturing hub preferred around the globe.

The logo for the Make In India campaign is a an elegant lion, inspired by the Ashoka Chakra and designed to represent India's

success in all spheres.The campaign was dedicated by the Prime Minister to the eminent patriot, philosopher and political personality, Pandit Deen Dayal Upadhyaya who had been born on the same date in 1916.

12.6.2 Why PM wants to Make in India

The Prime Minister called for all those associated with the campaign, especially the entrepreneurs and the corporates, to step and discharge their duties as Indian nationals by First Developing India and for investors to endow the country with foreign direct investments. The Prime Minister also promised that his administration would aid the investors by making India a pleasant experience and that his government considered overall development of the nation an article of faith rather than a political agenda. He also laid a robust foundation for his vision of a technology-savvy Digital India as complementary to Make In India. He stressed on the employment generation and poverty alleviation that would inevitably accompany the success of this campaign.

12.6.3 Launch Ceremony

Prime Minister Mr. Narendra Modi launched the Make In India campaign on September 25, 2014. The date of the launch was chosen to be of maximum advantage. Coming right after the successful insertion of Mangalyaan - a wholly indigenously built low-cost probe into the Martian orbit - the event highlighted India's success in manufacturing, science and technology, and all this at inexpensive costs. It also came just a day ahead of the Prime Minister's maiden US visit. Calculated to enhance India's attractiveness as an investment destination, the launch ceremony was held at the Vigyan Bhavan in New Delhi. Thehall thronged with attendees, a number of whom did not even find seats. Leading entrepreneurs and the CEOs of about 3000 companies from across 30 countries were invited to attend the launch.

Law Minister Mr. Ravishankar Prasad and Commerce Minister Ms. Nirmala Sitharaman were part of the occasion. Apart from them, a number of corporate head honchos with deep roots in the country also spoke at the occasion. These include - Mr. Cyrus Mistry (Chairman, Tata Sons), Mr. Kenichi Ayukawa (MD and CEO, Maruti Suzuki India), Mr. Mukesh Ambani (Chairman & Managing Director, Reliance Industries), Mr. Azim Premji (Chairman, Wipro Limited), Mr. KM Birla Chairman, Aditya Birla Group), Ms. Chanda Kochchar (MD & CEO, ICICI Bank), Mr. Phil Shaw (CEO, Lockheed Martin), and Mr. YC Deveshwar (Chairman, ITC).

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12.6.4 Sectors in Focus

For the Make in India campaign, the government of India has identified 25 priority sectors that shall be promoted adequately. These are the sectors where likelihood of FDI (foreign direct investment) is the highest and investment shall be promoted by the government of India.On the campaign launch, the Prime Minister Mr. Modi said that the development of these sectors would ensure that the world shall readily come to Asia, particularly to India where the availability of both democratic conditions and manufacturing superiority made it the best destinations, especially when combined with the effective governance intended by his administration.

Automobiles	Food Processing	Renewable Energy
Automobile Components	IT and BPM	Roads and highways
Aviation	Leather	Space
Biotechnology	Media and Entertainment	Textiles and garments
Chemicals	Mining	Thermal Power
Construction	Oil and Gas	Tourism and Hospitality
Defence manufacturing	Pharmaceuticals	Wellness
Electrical Machinery	Ports	
Electronic Systems	Railways	

12.6.5 Benefits and Disadvantages of Make in India

India is a country rich in natural resources. Labour is aplenty and skilled labour is easily available given the high rates of unemployment among the educated class of the country. With Asia developing as the outsourcing hub of the world, India is soon becoming the preferred manufacturing destination of most investors across the globe. Mae in India is the Indian government's effort to harness this demand and boost the Indian economy.

India ranks low on the "ease of doing business index". Labour laws in the country are still not conducive to the Make in India campaign. This is one of the universally noted disadvantages of manufacturing and investing in India.

12.6.6 Reasons for Companies were not manufacturing in India

Make in India campaign is at loggerheads with the Make in China ideal that has gained momentum over the past decade. China is a major rival to India when it comes to the outsourcing, manufacturing, and services business. India's ailing infrastructure scenario and defunct logistics facilities make it difficult for the country to achieve an elite status as a manufacturing hub. The bureaucratic approach of former governments, lack of robust transport networks, and widespread corruption makes it difficult for manufacturers to achieve timely and adequate production. The Modi government has vowed to remove these hurdles and make the nation an ideal destination for investors to set up industries.

12.6.7 The Make in India Website

Apart from the launch of a colourful brochure, which should find its way into the hands of anyone intending to invest into India, the government of India also launched a website to supplement the campaign. The Make In India website highlights each of the 25 target sectors with statistics, reasons to invest, growth drivers, all policies relevant to investors and the individual sectors, government support, and opportunities for investors apart from showcasing the live projects that have been undertaken and FAQs. The website also links to the campaigns Social Media feeds on Twitter, Facebook, Google Plus, and YouTube.

12.6.8 Criticism and Concerns

The NDA government's Make In India campaign has till early October attracted INR 2000 crore worth investment proposals. The campaign has, despite this,found its fair share of critics. The topmost of these criticisms is leveled against the incumbent government. It has been felt that the government does not walk its talk - labour reforms and policy reforms which are fundamental for the success of the Make In India campaign have not yet been implemented. A number of layoffs in companies such as Nokia India cast long shadows over the campaign. A number of technology based companies have not been enthused by the campaign launch and have professed to continue getting their components manufactured by China.

12.7 MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT

World Bank in 2012 reported that India is home to the maximum number of poor in any country. There can’t be a more

diabolical figure for a postcolonial nation that ranks high on Gross Domestic Product but disdainfully low on Human Development Index. A multidimensional, multicultural and highly stratified country like India, has multiple reasons to complain about such high rates of poverty. Some of them could be vagaries of nature, drought, natural disaster, chronic health issues, etc. Such unpredictability and lack of enough unskilled unemployment opportunities have been addressed by the Government of India through the MGNREGA which is a temporary employment guarantee scheme. Its primary objective is to provide livelihood opportunities to the unskilled population thereby creating durable assets and strengthening the resource base of rural areas.

12.7.1 Major features of the Act:

- The adult members willing to do unskilled work are eligible to work for assured 100 days.
- Registration has to be done at the local gram panchayat, where a job card would be availed after due verification.
- The employment seeker will be given work 15 days after the application. In cases otherwise, there is a provision of daily unemployment allowance.
- There is a one-third reservation for women.
- The wages are paid as prescribed in the Minimum Wages Act 1948 and cannot be less than Rs.60.
- Planning and implementation are under the principal control of the Panchayati Raj Institutions (PRIs).
- The scheme envisages that the shelf of the project is prepared on a priority basis under the direct control of Gram Sabha.
- There is a provision to maintain a 60:40 wage and material ratio and there is a prohibition of contractors and use of machinery that can replace labor.
- The work should be designed in such a way that it falls under a 5km distance.
- A progressive step of social audit has been instructed for the scheme that ensures transparency and accountability.
- Grievance redressal mechanism assures a responsible and sincere implementation.
- There is no role of a contractor and this feature is non-negotiable.
- Wage payments have to be necessarily done through bank accounts or post office accounts.

As far as funding is concerned, the Central Government provides 100% share of the wages, and 75% of the material costs. In addition to that, the State government balances the rest 25% of the material costs and also bears 100% of the daily unemployment allowance.

This statutory employment guarantee has created a paradigm shift from the previous employment schemes. The scheme has even been extended to Jammu & Kashmir. The government spends 4% of the total administrative cost towards deploying extra personnel who are inevitable for the dispensation of the scheme. A web enabled Management Information System (MIS) has put the database of the block and district in the public domain, thereby rendering the system transparent. It includes the worker's entitlement documents, work selection and execution data, employment demanded and delivered, and other financial indicators. National Level Monitors have been employed for monitoring and evaluation. Program review is done at the level of Minister and Secretary of Rural Development. Some of the tools for maintenance of public accountability are proactive disclosure of annual reports, RTI information, social auditing and grievance redressal mechanism by the District Level Ombudsman.

12.7.2 Outcomes of MGNREGA:

- A phenomenal increase in the employment demand and accelerated person days has fulfilled the primary objective of the scheme.
- 1/3rd of the beneficiaries have been women and thus the scheme has successfully reduced the skewed employment ratio delivering better than the premeditated target.
- Households belonging to the scheduled castes and scheduled tribes below the poverty line have been major beneficiaries.
- A multitude of community assets has been created across the country through MGNREGA task implementation such as water harvesting, afforestation, drought proofing, micro and macro irrigation works, renovation of water bodies, flood protection structures, land development, rural connectivity, etc.
- It acts as a supplementary income to the agricultural workers and farmers in off-seasons, helping them sustain a dignified livelihood.
- Rural household income has augmented in the Left-Wing Extremism affected states of Chattisgarh, Orissa, Jharkhand, Madhya Pradesh, and Andhra Pradesh.
- MGNREGA provides an impetus to entrepreneurship, increases the bargaining power of poor, and has a multiplier effect on the rural economy.

12.7.3 Criticism:

Several analysts have entailed MGNREGA as the wrong answer to rural distress. Prime Minister Narendra Modi himself calls it a living monument of Congress Party's failure irrespective of the kind of immense constructive contribution MGNREGA has made. The predominant reason for this scathing accusation is the unbelievable leakage practices. Experts even claim that just a small percentage of poor have been helped and a huge chunk of funds is misappropriated and embezzled by authorities at the various hierarchies. Political establishment turns a blind eye to these scandalous leakages and the poor remain repressed under this unabashed chicanery.

Nevertheless, the positive outcomes as depicted by several independent researchers and reports by the Indian Institute of Science, Bangalore, and Ministry of Rural Development claim that MGNREGA has created significant rural infrastructure and has become a lifeline to the rural poor. There might be discrepancies and subterfuge, that needs to be critically addressed, but the viability and inevitability of the scheme cannot be undermined unless the Central government comes up with a superior alternative.

12.8 SELF-ASSESSMENT QUESTIONS

Part – A

31. What is Jan Dhan Yojana?
32. Expand MUDRA?
33. What is STARTUP India?
34. Briefly explain the term Skill India
35. List out the sectors in focus Make in India.

Part – B

33. What are the major objectives of Jan Dhan Yojana?
34. What are the impacts of Jan Dhan Yojana for common man?
35. Explain the types of loan provided under MUDRA Yojana.
36. What are the document required for MUDRA loan.
37. Briefly explain the objectives of Skill India
38. What are the major features of MGNREGA?

Part – C

16. .Narrate the issues in implementation of skill India Mission
17. Discuss the Make in India Campaign.
18. Discuss the outcomes of MGNREGA

UNIT-13: CENTRAL BANK

Contents

13.1 MEANING & DEFINITION

A central bank plays an important role in monetary and banking system of a country. It is responsible for maintaining financial sovereignty and economic stability of a country, especially in underdeveloped countries.

"A Central Bank is the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country"-Bank of International Settlement.

It issues currency, regulates money supply, and controls different interest rates in a country. Apart from this, the central bank controls and regulates the activities of all commercial banks in a country.

Some of the management experts have defined central bank in different ways, which are as follows:

According to Samuelson, "Every Central Bank has one function. It operates to control economy, supply of money and credit."

According to Vera Smith, "The primary definition of Central Bank is the banking system in which a single bank has either a complete or residuary monopoly of note issue."

According to Kent, "Central Bank may be defined as an institution which is charged with the responsibility of managing the expansion and contraction of the volume of money in the interest of general public welfare."

NOTES

According to Bank of International Settlement, "A Central Bank is the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country."

Bank of England was the world's first effective central bank that was established in 1694. As per the resolution passed in Brussels Financial Conference, 1920, all the countries should establish a central bank for interest of world cooperation. Thus, since 1920, central banks are formed in almost every country of the world. In India, RBI operates as a central bank.

13.1.1 Difference between Central Banks and Commercial Banks

Table-2: Differences between a Central Bank and Commercial Bank

Central Bank	Commercial Bank
Controls and regulates the entire banking system of a country.	Operates under the direct control and supervision of the central bank. In India, all the commercial banks work under the guidelines issued by RBI.
Does not deal directly with the public. It issues guidelines to commercial banks for the economic development of a country.	Deals directly with the public. It serves the financial requirements of the general public by providing short and medium-term loans and depositing and securing money that can be drawn on demand.
Issues currency and controls the supply of money in the market	Does not issue currency, but only adds to the money supply by creating demand deposits.
Acts as a state owned institution.	Acts as a state or private owned institution.
Acts as a custodian of foreign exchange of the country.	Performs foreign exchange business only on the approval of the central bank.
Acts as a banker to the government.	Acts as agents of the central bank.
Controls credit creation in economy, thus, acts as a clearing house of other banks.	Acts as a clearing house only as an agent of the central bank.

13.2 FUNCTIONS OF CENTRAL BANK:

The central bank does not deal with the general public directly. It performs its functions with the help of commercial banks. The central bank is accountable for protecting the financial stability and economic development of a country.

Apart from this, the central bank also plays a significant part in avoiding the cyclical fluctuations by controlling money supply in the market. As per the view of Hawtrey, a central bank should primarily be the "lender of last resort."

On the other hand, Kisch and Elkins believed that "the maintenance of the stability of the monetary standard" as the essential function of central bank. The functions of central bank are broadly divided into two parts, namely, traditional functions and developmental functions.

These functions are shown in Figure-4:

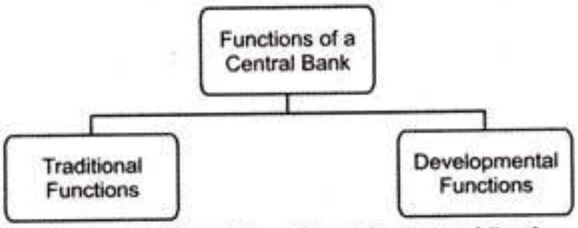


Figure-3: Different Functions of a Central Bank

The different functions of a central bank (as discussed in Figure-4) are explained as follows:

13.2.1 Traditional Functions:

Refer to functions that are common to all central banks in the world.

The traditional functions of the central bank include the following:

(i) Bank of issue:

Possesses an exclusive right to issue notes (currency) in every country of the world. In the initial years of banking, every bank enjoyed the right of issuing notes. However, this led to a number of problems, such as notes were over-issued and the currency system became disorganized. Therefore, the governments of different countries authorized central banks to issue notes. The issue of notes by one bank has led to uniformity in note circulation and balance in money supply.

(ii) Government's banker, agent, and advisor:

Implies that a central bank performs different functions for the government. As a banker, the central bank performs banking functions for the government as commercial banks performs for the public by accepting the government deposits and granting loans to the government. As an agent, the central bank manages the public debt, undertakes the payment of interest on this debt, and provides all other services related to the debt.

As an advisor, the central bank gives advice to the government regarding economic policy matters, money market, capital market, and government loans. Apart from this, the central bank formulates and implements fiscal and monetary policies to regulate the supply of money in the market and control inflation.

(iii) Custodian of cash reserves of commercial banks:

Implies that the central bank takes care of the cash reserves of commercial banks. Commercial banks are required to keep certain amount of public deposits as cash reserve, with the central bank, and other part is kept with commercial banks themselves.

The percentage of cash reserves is deeded by the central bank! A certain part of these reserves is kept with the central bank for the purpose of granting loans to commercial banks Therefore, the central bank is also called banker's bank.

(iv) Custodian of international currency:

Implies that the central bank maintains a minimum reserve of international currency. The main aim of this reserve is to meet emergency requirements of foreign exchange and overcome adverse requirements of deficit in balance of payments.

(v) Bank of rediscount:

Serve the cash requirements of individuals and businesses by rediscounting the bills of exchange through commercial banks. This is an indirect way of lending money to commercial banks by the central bank. Discounting a bill of exchange implies acquiring the bill by purchasing it for the sum less than its face value.

Rediscounting implies discounting a bill of exchange that was previously discounted. When owners of bill of exchange are in need of cash they approach the commercial bank to discount these bills. If commercial banks are themselves in need of cash they approach the central bank to rediscount the bills.

(vi) Lender of last resort:

Refer to the most crucial function of the central bank. The central bank also lends money to commercial banks. Instead of rediscounting of bills, the central bank provides loans against treasury bills, government securities, and bills of exchange.

(vii) Bank of central clearance, settlement, and transfer:

Implies that the central bank helps in settling mutual indebtness between commercial banks. Depositors of banks give checks and demand drafts drawn on other banks. In such a case, it is not possible for banks to approach each other for clearance, settlement, or transfer of deposits.

The central bank makes this process easy by setting a clearing house under it. The clearing house acts as an institution where mutual indebtness between banks is settled. The representatives of different banks meet in the clearing house to settle inter-bank payments. This helps the central bank to know the liquidity state of the commercial banks.

(viii) Controller of Credit:

Implies that the central bank has power to regulate the credit creation by commercial banks. The credit creation depends upon the

amount of deposits, cash reserves, and rate of interest given by commercial banks. All these are directly or indirectly controlled by the central bank. For instance, the central bank can influence the deposits of commercial banks by performing open market operations and making changes in CRR to control various economic conditions.

13.2.2 Developmental Functions:

Refer to the functions that are related to the promotion of banking system and economic development of the country. These are not compulsory functions of the central bank.

These are discussed as follows:

(i) Developing specialized financial institutions:

Refer to the primary functions of the central bank for the economic development of a country. The central bank establishes institutions that serve credit requirements of the agriculture sector and other rural businesses.

Some of these financial institutions include Industrial Development Bank of India (IDBI) and National Bank for Agriculture and Rural Development (NABARD). These are called specialized institutions as they serve the specific sectors of the economy.

EXHIBIT-3

National Bank for Agriculture and Rural Development

NABARD is an apex development bank, planning and operating in the field of agriculture and its allied activities. It provides
facilities to farmers, small-scale industries, and other related organizations working for the development of the agricultural secto
was established in the year 1982, through an Act of Parliament to integrate the development of rural sector with the growth of
sector. NABARD grants short-term loans to both the farming and non-farming sectors for technically and financially feasible proj
Some of the important functions performed by it are as follows:

- **Refinancing:** Refers to the financial assistance provided to the lending institute working for the development of the agricult sector. It extends the date of maturity of the loans to the lending institute on the basis of their credit rating, which are associ with the development of the rural sector. With the help of refinancing, the loan structure are modified, lower rate of intere imposed on the loan, so that lenders can return them on time.
- **Promote Rural Development:** Refers to the promotional scheme launched by NABARD to promote rural developmen providing financial assistance to farmers to earn their livelihood.
- **Evaluate and Monitor the Client Bank:** Refers to the supervision function of NABARD towards its client bank. It is responsibility of NABARD to evaluate, monitor, and inspect the working of the client bank time-to-time.
- **Assist RBI and Government Body:** Refers to the assistance provided by NABARD to RBI and different government bo in implementing various schemes related to the rural development.

(ii) Influencing money market and capital market:

Implies that central bank helps in controlling the financial markets Money market deals in short term credit and capital market deals in long term credit. The central bank maintains the country’s economic growth by controlling the activities of these markets.

(iii) Collecting statistical data:

Gathers and analyzes data related to banking, currency, and foreign exchange position of a country. The data is quite helpful for researchers, policymakers, and economists. For instance, the Reserve Bank of India publishes a magazine called Reserve Bank of India

Bulletin, whose data is useful for formulating different policies and making macro-level decisions.

13.3 MONEY SUPPLY

13.3.1 Meaning of Money Supply (D2010):

The supply of money means the total stock of money (paper notes, coins and demand deposits of bank) in circulation which is held by the public at any particular point of time.

Briefly money supply is the stock of money in circulation on a specific day. Thus two components of money supply are

(i) currency (Paper notes and coins)
(ii) Demand deposits of commercial banks.

Again it needs to be noted that (like difference between stock and supply of a commodity) total stock of money is different from total supply of money.

Supply of money is only that part of total stock of money which is held by the public at a particular point of time. In other words, money held by its users (and not producers) in spendable form at a point of time is termed as money supply.

The stock of money held by government and the banking system are not included because they are suppliers or producers of money and cash balances held by them are not in actual circulation. In short, money supply includes currency held by public and net demand deposits in banks.

13.2.2 Sources of Money Supply:

(i) Government (which Issues one-rupee notes and all other coins)
(ii) RBI (which issues paper currency)
(iii) commercial banks (which create credit on the basis of demand deposits).

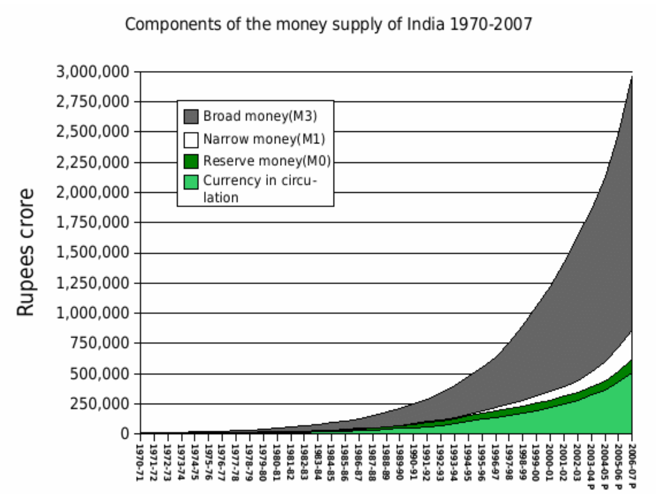
13.2.3 Measures of Money Supply in India

One of the most important concepts to understand in economics is that of money. It forms the basis of the entire study of the economy. And one important aspect of money is the supply of money in the economy. Let us learn more about the supply of money and measures of money supply in India.

This includes all the notes, coins and demand deposits held by the public on such a day. Such as money demand, money supply is also a stock variable. One important point to note is that the stock of money kept

with the government, central bank, etc. is not taken into account in money supply. This money is not in actual circulation in the economy and hence does not form a part of the monetary supply. Now there are essentially three main sources of money supply in our economy. They are the produces of the money and are responsible for its distribution in the economy. These are

I. The government who produces all the coins and the one rupee notes
II. The Reserve Bank of India (RBI) which issues all the paper currency
III. And commercial banks as they create the credit as per the demand deposits



Now we come to the next logical question. How can we measure the amount of money in the economy? It certainly isn't an easy or straightforward task. There is no one way to calculate the money supply in our economy. Instead, the Reserve Bank of India has developed four alternative measures of money supply in India. These four alternative measures of money supply are labelled M1, M2, M3 and M4. The RBI will collect data and calculate and publish figures of all the four measures. Let us take a look at how they are calculated.

M1 (Narrow Money)

M1 includes all the currency notes being held by the public on any given day. It also includes all the demand deposits with all the banks in the country, both savings as well as current account deposits. It also includes all the other deposits of the banks kept with the RBI. So M1 = CC + DD + Other Deposits

M2

M2, also narrow money, includes all the inclusions of M1 and additionally also includes the saving deposits of the post office banks. So M2 = M1 + Savings Deposits of Post Office Savings

M3 (Broad Money)

M3 consists of all currency notes held by the public, all demand deposits with the bank, deposits of all the banks with the RBI and the net Time Deposits of all the banks in the country. So M3 = M1 + time deposits of banks.

M4

M4 is the widest measure of money supply that the RBI uses. It includes all the aspects of M3 and also includes the savings of the post office banks of the country. It is the least liquid measure of all of them. M4 = M3 + Post office savings

13.3 SELF-ASSESSMENT QUESTIONS

Part – A

36. Define Central Bank?
37. What is money supply?
38. List out the sources of money supply.

Part – B

39. What are the major difference between Central bank and Commercial bank?
40. Write note on bank of issue and bank of rediscount?
41. Explain the development functions of central bank.
42. Briefly explain the measures of money supply in India.

Part – C

19. Narrate the functions of Central Bank.

UNIT-14: THE MACROECONOMICS DEBATE

Contents

14.1 INTRODUCTION

The contributions to the macroeconomic theme have addressed several dimensions of the crisis. At one level, some of the contributions have focused on the immediate macroeconomic policy challenges facing the G20 government. In addition, the theme has sought to identify the deeper imbalances that lie behind the crisis and whether these imbalances may cause yet further problems in the future. A recurrent concern across the contributions has been the interactions between macroeconomic policy, policies to resolve the banking crisis, financial regulation and international institutional reform. Accordingly, the contributions from the macroeconomic theme are complementary with those from the other themes in the overall initiative.

14.2 MACROECONOMIC POLICY INSTRUMENT

The two major macroeconomic policy instruments are monetary and fiscal policies. In view of the dramatic decline in policy interest rates towards zero and the disruption in the traditional credit channel for monetary policy, considerable attention has shifted towards fiscal policy. The contribution of Blanchard et al provides a comprehensive guide to the intricacies of setting fiscal policy during the current crisis. This IMF team calls for an expansionary fiscal approach from those countries (including the major creditor countries) that are in a position to pursue a counter-cyclical strategy. However, its nuanced approach also recognises that 'one size does not fit all' with the nature of fiscal expansion taking different forms in different countries (for instance, due to differences in the power of automatic stabilisers across different systems) and funding risk limiting the scope for fiscal expansion for a

sizeable group of countries. An important design feature (also shared by the recent VOX contribution from Corsetti et al) is that reversible fiscal interventions are more likely to be effective, in view of the importance of ensuring medium-term fiscal sustainability.

In addition, it is better to pursue a diversified fiscal strategy, since there is considerable uncertainty as to which measures will be most effective. This point is reinforced by the contribution of Richard Clarida; the high level of policy activism in the US reflects a search for the right solution, with little by way of historical guidance to enable confident projections about which interventions will prove to be effective. In similar vein, as is emphasised by Axel Leijonhufvud, the central problem is the imperative by banks, households and firms to restore health to balance sheets means that effectiveness of the usual macroeconomic policy transmission mechanisms is highly uncertain.

Turning to monetary policy, Olivier Jeanne focuses on the importance of avoiding the deflation trap. The current problem is different to that facing Japan in the 1990s, since the deflation risk is not country-specific but global in nature. Jeanne highlights the cross-country spillover effects in fighting deflation, since strategies to commit to the resumption of positive inflation rates in the future are strategic complements. This reinforces the importance of international cooperation in monetary policy, at the very least at the level of multilateral consultations in relation to national policies to address deflation risk.

In addition to their primary role in achieving medium-term price stability, the world's central banks (in tandem with national treasuries) are also centrally involved in finding mechanisms to unlock the flow of credit and restore the health of banking systems through a range of 'unconventional' measures. In a series of contributions, Ricardo Caballero has emphasised that the key problem is the level of uncertainty that faces private investors. The fear of "unknown unknowns" means that the degree of effective risk aversion is very high and a primary goal in designing intervention schemes must be to limit systemic downside risk for private investors.

In addition to dealing with the immediate policy challenges to tackle the acute phase of the global crisis, the macroeconomic policy agenda must include taking steps to minimise the risk of such a crisis recurring in the future. In order to provide an appropriate diagnosis to guide longer-term reforms, this requires an identification of the role played by macroeconomic imbalances in generating the current crisis.

While the role played by large current account imbalances as a proximate cause of the current crisis remains hotly contested (see, for example, the recent contribution of Dooley et al), there is little dispute that shifts in the level and composition of gross international capital flows over the last decade have represented a major structural shock that in turn contributed to the accumulation of badly-managed risks in the balance sheets of major financial institutions. In particular, as is discussed in the contributions by Eswar Prasad and Brad Setser, the desire by major emerging market economies (most notably, China) to hold large quantities of dollar bonds contributed to low real interest rates in the credit markets of the major advanced economies and may have prompted excessive risk taking and over-gearing by major financial intermediaries in the search for higher yield

14.3 GLOBAL IMBALANCES STILL MATTER

An important point made by both Prasad and Setser is that the global imbalances issue has not disappeared. In particular, while the safe haven effect has provided important support to the dollar over the last year, this provides no guarantee that a disruptive shift in exchange rates may not occur in a future phase of the crisis. In particular, if the fiscal stimulus in the US means that the US recovers more quickly than its trading partners, then the current account deficit in the US may widen again. In addition, aggressive quantitative easing in the US may further weaken demand for dollar-denominated assets.

In relation to the sustainability of the US external balance sheet, Gian Maria Milesi-Ferretti makes a very important point by highlighting that the US net foreign asset position suffered major capital losses during 2008. After a long sequence of enjoying net capital gains on its external position, the valuation channel went into reverse into 2008 due to the disproportionate exposure of US investors to sharp losses international equity markets, with foreign-currency losses compounded by the appreciation of the dollar. Accordingly, the US net external position likely deteriorated by 15% of GDP during 2008, which may further prompt foreign investors to re-assess the riskiness of holding dollar-denominated assets.

More generally, there is a widespread view that the high demand by emerging market economies for liquid foreign-currency assets in part relates to a desire to self insure against the risk of shifts in domestic and international investor sentiment. This risk is more severe for emerging markets, since domestic financial systems are less well developed and foreign debt liabilities are typically contracted in foreign currencies. In order to guard against the risk that domestic residents

seek to convert domestic currency assets into foreign currency alternatives and/or that foreign-currency liabilities are not rolled over, the authorities in these countries have accumulated large volumes of foreign-currency reserves.

However, this strategy is collectively inefficient (see also the contribution by Lane in the VOX e-book Macroeconomic Stability and Financial Regulation: Key Issues for the G20). Moreover, as is pointed out in the contribution by Guillermo Calvo, it is turning out that a high level of reserves does not provide much protection since the depletion of reserves is interpreted as a sign of vulnerability by international markets. Accordingly, Calvo argues that a global lender of last resort is required to restore liquidity. In the short run, this translates into a pressing need to greatly expand the liquidity facilities that can be offered by the IMF and other international institutions to emerging market economies. Accordingly, the expansion of funding for the IMF should be a high priority for the G20, in order to provide confidence to global markets that liquidity crises can be averted.

The stability of the financial systems of emerging markets can be further enhanced if institutional reforms can be implemented that promote local-currency foreign lending to these economies. The contribution by Frank Warnock highlights the advantages of local-currency debt markets for these economies and such innovations may be facilitated by shifts in the financial policies of international financial institutions and in the financial regulations adopted by advanced countries vis-à-vis the treatment of assets held in emerging markets.

Two further points made by Calvo are worth highlighting. First, he emphasises that proposals regarding financial regulation may be counterproductive if the lender of last resort function is not addressed; these issues need to be addressed jointly. Second, he highlights that a global lender of last resort function and greater global regulation of financial flows may be difficult to reconcile with large shifts in exchange rates, in view of the impact of currency shifts on balance sheets. Accordingly, there are also important implications of international institutional reform for the international monetary system.

14.4 CONCLUSION

In this article attempted to provide a tour of some of the main ideas discussed in the contributions to the macroeconomic theme of this project. The bottom line is that fighting the current financial crisis and preventing future crises requires a holistic approach that tackles both short-term macroeconomic policy imperatives and longer-term

institutional reforms. It is a false choice to argue that the upcoming summit should focus on one dimension to the exclusion of the other.

14.5 SELF-ASSESSMENT QUESTIONS

Part – B

43. Explain the macro-economic policy instruments.
44. Briefly explain the macro-economic policy in India.

Part – C

20. Discuss the Macro Economic debate at global level

REFERENCE BOOKS

NOTES

1. Ahuja, HL (2004), Macro Economics theory and Policy, S Chand & Company, New delhi.
2. Caplan, Bryan. “Why I Am Not an Austrian Economist.” Bryan Caplan. Accessed February 23,
3. Datt and Sundharam (2014), *Indian Economy,* S. Chand and Company, New Delhi.
4. D N Dwivedi: Macroeconomics – Theory and Policy: Third Edition. Tata Mcgraw-Hill. Chapters 6, 7 and 10.
5. Edward Shapiro: Macroeconomic Analysis: fifth edition. Galgotia Publications. Chapters 4, 5 and 6.
6. Eugine Diulio: Macroeconomics. Third edition. Shaum Outline, Tata Mcgraw-Hill
7. Garrison, Roger W. “The Austrian Theory of the Business Cycle in the Light of Modern Macroeconomics.” *The Review of Austrian Economics* 3, no. 1 (December 1, 1989): 3-29.
8. Gregory Mankew: Macro Economics. Fifth Edition. Worth Publishers
9. Gregory Mankiw. 2004. Principle of Economics, Third Edition, Thomson SouthWestern
10. Jhingan, M L : Macroeconomic Theory : eleventh Edition. Vrinda Publications. Chapters 7, 8, 10 and 15.
11. Jhingan .M.L (2012), *Money and Banking*, Viruntha Publication, New Delhi.
12. Mithani,D.M.(2003), Modern Economic Analysis, Himalaya Publishing House, Mumbai.
13. Mithani (2012), “Money and Banking” Himalaya Publication: New Delhi.
14. Musgrave,R.A.and P.B.Musgrae(1976),Public Finance in Theory and Practice, McGraw Hill,Kogkusha,Tokyo.
15. SK Singh, Public Finance in theory and practice 2004, S.Chand & company new Delhi
16. Sundharam,K.P.M.(2003),Public Finance, Sultan Chand and Sons, New Delhi.
17. Sundaram K.P.M (2010), *Money, Banking and International Trade,* Sultan Chand Publication.

18. Rana, K C and K N Verma: Macro Economic Analysis. Vishal Publishing Co. Chapters 10, 11 and 17.
19. Reddy, Y.V. (2000), *Monetary and Financial Sector Reforms in India: A Central Banker's Perspective,* UBSPD, New Delhi.
20. Vaish,M.c.(2005): Macro Economic Theory, Vikas Publishing House, New Delhi

ONLINE REFERENCES

1. Subho Mukher, Top 5 Theories of Demand for Money; http://www.economicsdiscussion.net/money/top-5-theories-of-demand-for-money/10465
2. Ritika Muley, Beginner's Guide to the Quantity Theory of Money; http://www.economicsdiscussion.net/money/quantity-theory-of-money/beginners-guide-to-the-quantity-theory-of-money/17410
3. Modern Theories of Economic Growth; https://www.tutorialspoint.com/ managerial economics/ modern_theories_economic_growth.htm
4. Nitisha, Theories of Economic Growth – Discussed!; http://www.economics discussion.net/economic-growth/theories-of-economic-growth-discussed/4203
5. www.economicsdiscussion.net › general-theories-o...
6. http://www.economicsdiscussion.net/trade-cycle/trade-cycle-meaning-features-and-theories/21071
7. http://vikaspedia.in/social-welfare/financial-inclusion/pradhan-mantri-jan-dhan-yojana
8. https://iasscore.in/topical-analysis/pradhan-mantri-jan-dhan-yojana-pmjdy-
9. https://www.gktoday.in/gk/pradhan-mantri-jan-dhan-yojana/
10. https://en.wikipedia.org/wiki/Micro_Units_Development_and_Refinance_Agency_Bank
11. https://www.paisabazaar.com/business-loan/all-you-need-to-know-about-pradhan-mantri-mudra-yojana/
12. https://www.paisabazaar.com/business-loan/mudra-loan-documents/
13. https://iasscore.in/topical-analysis/skill-india-mission-

MA (ECONOMICS)

36241: MACRO ECONOMICS - II

(English Medium)

Time: 3 Hours **Max Marks: 75**

Part – A

Answer **ALL** questions **10 X 2 = 20 Marks**

1 Who is the author of portfolio approach to demand for money?

2 Define the term Economic Growth

3 Expand the term IS-LM-BP.

4 Who is the author of life cycle hypothesis?

5 Expand RATEX.

6 What is meant by trade cycle?

7 Define the term inflation?

8 What are the components of balance of payments?

9 What is Jan Dhan Yojana?

10 Briefly explain the term MUDRA.

Part – B

Answer **ALL** questions **5 X 5 = 25 Marks**

11 What are the advantages of Quantity theory of money?

OR

What are the basic propositions of the Rational Expectation hypothesis?

12 Explain the concept of Absolute Income Hypothesis.

OR

Briefly explain the concept of Climate theory?

13 Explain briefly long run Phillips curve.

OR

Briefly explain the concept of Samelson-solow model.

14 Explain the types of business cycle?

OR

Explain the causes of currency crisis.

15 What are the macro-economic policy instruments?

OR

What are the major features of MGNREGA?

Part – C

Answer **any THREE** questions **3 X 10 = 30 Marks**

16 Explain detail the Harrod-Domar model for Economic Growth.

17 Discuss the phases of business cycle with diagrammatic illustration.

18 Discuss the Austrian macro-economic policy

19 Narrate the functions of Central Bank.

20 Narrate the issues in implementation of skill India Mission